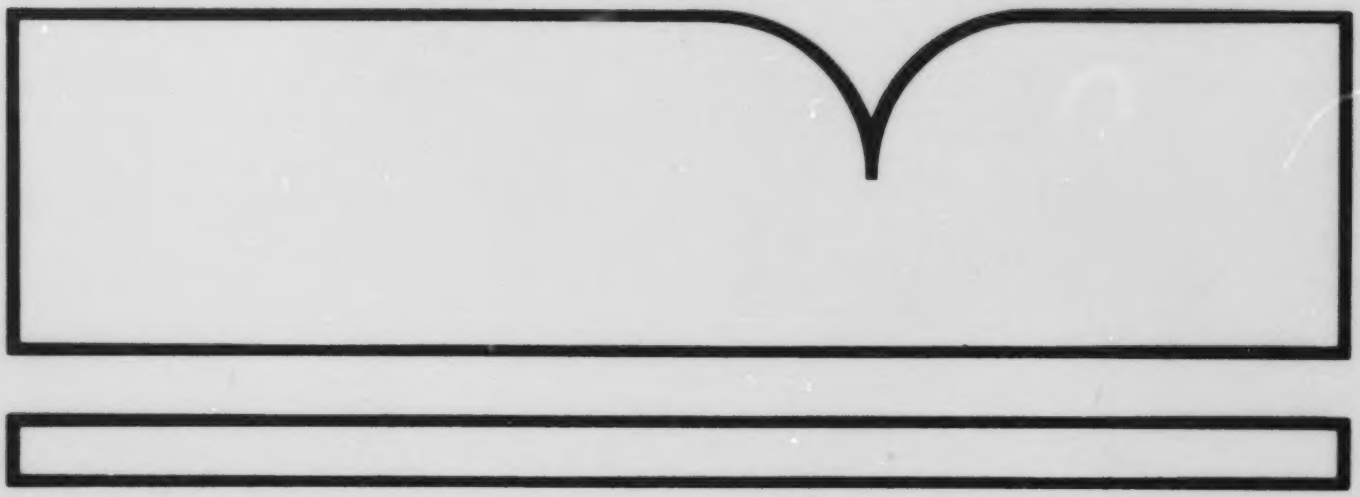
PB88-172994

Superfund Record of Decision (EPA Region 5) Industrial Excess Landfill Site, Uniontown, Ohio (First Remedial Action), September 1987

(U.S.) Environmental Protection Agency
Washington, DC

30 Sep 87



U.S. Department of Commerce
National Technical Information Service
NTIS

PB88-172994

United States
Environmental Protection
Agency

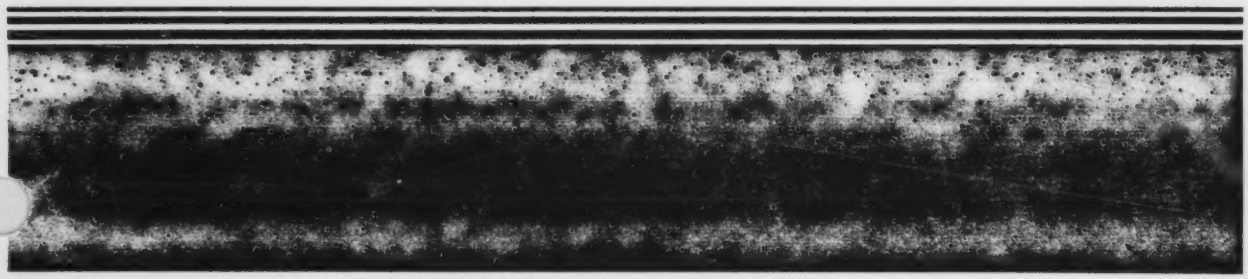
Office of
Emergency and
Remedial Response

EPA/ROD/R05-87/056
September 1987

EPA

Superfund Record of Decision:

Industrial Excess Landfill, OH



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TECHNICAL REPORT DATA
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1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
PA/ROD/R05-87/056		PB88 172994/AS

4. TITLE AND SUBTITLE	5. REPORT DATE
SUPERFUND RECORD OF DECISION Industrial Excess Landfill, OH First Remedial Action	September 30, 1987 6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)	8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT NO. 11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS U.S. Environmental Protection Agency 401 M Street, S.W. Washington, D.C. 20460	13. TYPE OF REPORT AND PERIOD COVERED Final ROD Report 14. SPONSORING AGENCY CODE 800/00

15. SUPPLEMENTARY NOTES

16. ABSTRACT

The Industrial Excess Landfill (IEL) is a 30-acre closed sanitary landfill located in Uniontown, Stark County, Ohio. Over 400 residential homes, located within a 0.5 mile radius of the landfill, rely entirely on individual or private well supplies for drinking water. Prior to 1961, the landfill property may have been utilized as a coal mine and later for mining sand and gravel. Gradually, the mining/excavation pit was converted into a landfill which received a variety of wastes. Between 1964 and 1968, the site was used to store fly ash, masonry rubble, paper and lumber scrap. From 1968 to 1980, IEL accepted municipal, commercial, industrial and chemical wastes of substantially undetermined and unknown composition, primarily from the nearby rubber industry. Large quantities of chemical and liquid waste were dumped onto the ground either from 55-gallon drums or from tanker trucks. In January of 1972, the Stark County Board of Health (SCBH) ordered the dumping of chemical wastes stopped. In 1980, due to public concern and facility volume limitations, the landfill was ordered to close. Closure plans were completed and the site was covered and seeded. In 1983, complaints by community residents prompted investigations to ascertain whether drinking water was contaminated and if health risks existed. The results indicated that residential wells were contaminated with inorganics, organics and VOCs.
(See Attached Sheet)

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Record of Decision Industrial Excess Landfill, OH First Remedial Action Contaminated Media: gw Key contaminants: VOCs, organics, inorganics		

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS (This Report) None	21. NO. OF PAGES 86
	20. SECURITY CLASS (This page) None	22. PRICE PC14.95/MF6.95

EPA Form 2220-1 (Rev. 4-77) PREVIOUS EDITION IS OBSOLETE

EPA/ROD/R05-87/056
Industrial Excess Landfill, OH
First Remedial Action

16. ABSTRACT (continued)

The selected remedial action involves provision of an alternate water supply to approximately 100 homes located west of the site. EPA has deferred the decision on the source of this water until the completion of initial design activities. The estimated present worth cost for this remedial action ranges from $1,715,870 to $2,289,060 pending water source selection.

RECORD OF DECISION
Remedial Alternative Selection
Operable Unit for Provision of
Alternate Water Supply

SITE Industrial Excess Landfill - Uniontown, Ohio

PURPOSE

This decision document represents the selected remedial action for the operable unit for the Industrial Excess Landfill site. It was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Contingency Plan (40 CFR Part 300) of 1985.

The State of Ohio has concurred on the selected remedy, as stated in the attached Letter of Concurrence.

BASIS

The selection of remedy is based upon the Industrial Excess Landfill Site Administrative Record. The attached index identifies the items which comprise this record.

DESCRIPTION OF SELECTED REMEDY

- Provide alternate water to an area comprised of approximately 100 homes located west of the IEL site. This action constitutes an operable unit of the overall remedy for the site. The comprehensive Remedial Investigation/Feasibility Study (RI/FS) documents will evaluate alternatives for the overall site remedy.

DECLARATIONS

Consistent with CERCLA, as amended by SARA, and the National Contingency Plan (40 CFR Part 300), I have determined that providing alternate water to an area comprised of approximately 100 homes is a cost-effective interim remedial action (operable unit) that provides adequate protection of public health and welfare, and meets applicable or relevant and appropriate requirements. The action will require future operation and maintenance activities to assure the continued effectiveness of the remedy. These activities will be considered part of the approved action and eligible for Trust Fund monies for a period not to exceed 1 year. The statutory preference for treatment is not-satisfied

because this action constitutes an operable unit for the overall site remedy. Treatment alternatives for the overall site will be addressed in the comprehensive RI/FS documents.

The United States Environmental Protection Agency (U.S. EPA) is continuing its comprehensive RI/FS for the Industrial Excess Landfill site. Phase II of the Remedial Investigation. which further characterized the site, major migration pathways, and identification of contaminant sources, was completed in September 1987. U.S. EPA is planning to complete the remaining tasks of the comprehensive RI/FS by early 1988. This will include the identification and evaluation of potential final remedial actions. If additional remedial actions are determined to be necessary, a Record of Decision will be prepared for approval of the future remedial actions.

September 30th, 1987
Date

Valdas V. Adamkus
Regional Administrator
United States Environmental Protection Agency, Region V

OhioEPA
State of Ohio Environmental Protection Agency
P.O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149

Toward a Cleaner Environment

RECEIVED
OCT 05 1987
EMERGENCY REMEDIAL RESPONSE BRANCH

Richard F. Celeste
Governor

September 29, 1987

RECEIVED
U.S.
OFFICE OF REGIONAL ADMINISTRATOR

Re: Industrial Excess Landfill
Superfund Site Stark County

Valdas V. Adamkus
Regional Administrator
U.S. EPA, Region V
230 S. Dearborn Street
Chicago IL 60604

Dear Mr. Adamkus:

After review of the Focused Feasibility Study for an Alternate Water Supply at the Industrial Excess Landfill, Ohio EPA concurs with the proposed remedial alternative. This alternative includes provision of an alternate water supply to approximately 100 homes located west of the site. Concurrence is contingent upon compliance with all applicable or relevant and appropriate State requirements (ARAR's) by the alternative as finally implemented.

Ohio EPA will assure payment of 10 percentum of the cost of the remedial action, including the first year of operation and maintenance. Ohio EPA will assure all future maintenance of the remedial action through user fees assessed by the utility supplying potable water to the homes affected by this action.

Sincerely,

Richard L. Shank, Ph.D.
Director

RLS/RH/lz

O. WMD
CC: RF
FREEMAN

cc: David Strayer, DSHWM, CO
Rodney Beals, NEDO

ADMINISTRATIVE RECORDS

INDUSTRIAL EXCESS LANDFILL, (I.E.L.), UNIONTOWN, OHIO
DOCUMENTS FOR REMEDIAL ACTIONS

TITLE	AUTHOR	DATE	PAGES
			0
AIR ANALYSIS	ENVIRESPONSE	5/8/87	350
AIR MONITORING - METHANE - EMERGENCY RESPONSE CONTROL * See pg. 10	N.A.	N.A.	136
ALTERNATIVES ARRAY -	C.C. JOHNSON & MALHOTRA, P.C.	5/29/87	50
ARAR'S	U.S.E.P.A.	6/16/87	60
CHAIN OF CUSTODY FORMS			0
COMM'S on PROPOSED AMEND'S to OIL/HAZARDOUS CON. PLAN(See Pg.7)	N.A.	N.A.	125
COMMUNITY RELATIONS	N.A.	N.A.	120
CONSIDERATION OF INTRUSIVE DRILLING OPTION (FINAL VERSION)	CDM	/ /	6
CONTRACTOR CORRESPONDENCE - See page No. 2	N.A.	N.A.	28
DRAFT GUIDANCE FOR PROVIDING ALTERNATIVE WATER SUPPLIES	CDM. & C.C. JOHNSON INC.	5/ /85	100
ERT AIR DATA	ENVIRESPONSE \ WESTON INC.	12/ /85 & 4/ /86	400
FINAL FOCUSED FEASIBILITY STUDY FOR EVAL. ALTERN. WATER SUPPLIES	CDM	8/ /87	175
FINAL HEALTH AND SAFETY PLAN	CDM	2/ /86	225
FINAL WORK PLAN	CDM	7/ /85	150
FOCUSED FEASIBILITY STUDY FOR EVALUATING ALT. WATER SUPPLIES	CDM	/ /	6
GUIDANCE DOCUMENTS	U.S.E.P.A.	3/11/87	30
IEL PUBLIC COMMENTS (FFS) See pg. No. 11	N.A.	8/12/87 - 9/10/87	50
IEL REPORT TO THE COMMUNITY OF LAKE TOWNSHIP	LAKE TOWNSHIP TRUSTEES	9/7/84	350
INITIAL SITE EVALUATION	CDM	5/ / 85	50
INTER-AGENCY CORRESPONDENCE - See page No. 3	N.A.	N.A.	47
INTERIM GUIDANCE ON COMPILANCE W/ APPLICABLE OR REL. & APP. REQ'S	J. WINSTON PORTER	7/9/85	9
LETTERS FROM CITIZENS - See page No. 6	N.A.	N.A.	87
METHANE GAS VENTING See pg. No. 9	N.A.	N.A.	79

ADMINISTRATIVE RECORDS

INDUSTRIAL EXCESS LANDFILL, (I.E.L.), UNIONTOWN, OHIO
DOCUMENTS FOR REMEDIAL ACTIONS

TITLE	AUTHOR	DATE	PAGES
O.E.P.A. CORRESPONDENCE -See page No. 4	O.E.P.A.	N.A.	47
PRELIMINARY ASSESSMENT / SITE INVESTIGATION	U.S. E.P.A.	12/9/83 & 3/5/84	250
PROPOSED PLAN	U.S.E.P.A.		9
PUBLIC HEALTH INFORMATION - See page No. 8	N.A.	N.A.	100
QA / QC RAW DATA *** NOT IN ADMINISTRATIVE RECORDS ***	See Julie Mathiesen		0
QAPP	CDM	8/1/86	225
QAPP APP. A - EXISTING ANALYTICAL DATA	O.E.P.A.	N.A.	250
QAPP APP. B - SAMPLING ANALYSIS PLAN	CDM	6/ /86	100
RECORD OF DECISION (ROD)			0
RESIDENTIAL WELL DATA	U.S.E.P.A. \ OHIO DEPT. of HEALTH	N.A.	75
RESPONSIVENESS SUMMARY			0
RI DOCUMENTS	CDM	7/ /85	500
SITE INVENTORY\PRE-RI SAMPLING	N.A.	9/4/84	300
SITE INVESTIGATION	U.S.E.P.A	N.A.	200
STATE AND FEDERAL LETTERS - See page No. 5	N.A.	N.A.	34
SUMMARY OF REMEDIAL ALTERNATIVE SELECTION			0
TRANSCRIPTION OF PUBLIC MEETING AUG. 25, 1987	BISH & ASSOCIATES INC.	9/3/87	126
WORK PLAN FOR FOCUSED FEASIBILITY STUDY-ALTERNATIVE WATER SUPPL'S	CDM	7/ /85	60
WORK PLAN MEMORANDUM	CDM	1/ /85	60
*** Total ***			4862

ADMINISTRATIVE RECORD

INDUSTRIAL EXCESS LANDFILL
CONTRACTOR CORRESPONDENCE

SUBJECT	AUTHOR	DATE	PAGES
CONDITIONS AT LISTING (OCTOBER '84)	CODE - R	/ /	1
EXHIBIT B: FLUSH MOUNTED MONITORING WELL-C.C. JOHNSON & ASS. INC.	B. HEALY	11/12/86	1
PROPOSAL FOR GEOPHYSICAL SURVEYS	WAYNE R. SAUNDERS	09/05/86	4
ERRORS IN SAMPLING PAPERWORK TO SIDNEY PAIGE	JOHN HAWTHORNE	01/23/86	1
RATIONALE FOR LOCATION SELECTION FOR BACKGROUND SOIL SAMPLES	SIDNEY PAIGE	10/14/86	2
RESPONSE TO COMMUNITY QUESTIONS CONCERNING HYDOGEOLOGICAL INVEST.	SIDNEY PAIGE	09/23/86	3
LOCATIONS FOR RESIDENTIAL WELL SAMPLING	SIDNEY PAIGE	09/10/86	2
TENTATIVE PHASE II DRILLING LOCATIONS	SIDNEY PAIGE	09/23/86	1
DRILLING PROCEDURES FOR MED. & DEEP MONITORING WELLS	SIDNEY PAIGE	10/15/86	1
FIELD PROJECT SHUT-DOWN AND SITE CLOSURE PLAN	BOB EBAN	10/15/86	2
RECOMMENDATIONS CONCERNING DRILLING PROCED.,...INSTAL. PH II GRDH2O	SIDNEY PAIGE	09/30/86	4
SUBMITAL LETTERS TO QAPP	JOHN HAWTHORNE	06/20/86	2
IBID,(but) W/ U.S.E.P.A COMMENTS INCORPORATED INTO QAPP	IBID	07/31/86	4
		/ /	0
*** Total ***			28

ADMINISTRATIVE RECORD

INDUSTRIAL EXCESS LANDFILL
INTERAGENCY CORRESPONDENCE

UBJECT	AUTHOR	DATE	PAGES
OMMENTS ON RI/FS	JAY PLUCINSKI	12/08/86	2
ONCERNING RI/FS COMMENTS	VALDAS V. ADAMKUS	9/9/86	3
ESPONSE TO COMMENTS	DAVID W. JOHNSON	8/20/86	2
ONCERNING: UNIONTOWN SUPERFUND SITE, (BETTER TESTING REQUEST)\REVIEW	JOHN GLENN	11/19/86	1
IBID (IN RESPONSE TO)	CHRISTINE BORELLO	11/17/86	1
ONCERNING CLEANUP	DAVID W. JOHNSON	10/23/86	1
ONCERNING RI/FS, CLEANUP PRIORITY	VALDAS V. ADAMKUS	11/13/86	2
ESPONSE TO " DATA GAP "	CHRIS BORELLO	2/8/87	2
ONVERSATION RECORD: AIR MONITORING	TIM BAKER	3/26/86	1
ANGERS OF TOXINS UNKNOWN	B. DOWNING & D. ADAMS- BEACON JOUR.	3/2/87	1
HE IEL INVESTIGATION	HENRY L. LONGEST II	1/27/87	3
IEL " DEADLOCK "	DAVID JOHNSON	12/17/86	2
DATA BASE IMPROVEMENTS	SCOTT GELSLAGER	11/28/86	1
POLLUTION CONTROL GRANTS	DAVID W. JOHNSON	9/22/86	1
UNKNOWNS IN DRINKING WATER	DAVID W. JOHNSON	8/20/86	2
DELAYS AND RI PROBLEMS	DAVID W. JOHNSON	12/2/86	2
METHANE GAS LEAKS	DAVID W. JOHNSON	10/1/86	1
RI/FS CONTRACTORS	DAVID W. JOHNSON & S. GELSLAGER	4/25/86	2
U.S.E.P.A. ACTIVITY ON THE SITE	JOHN F. SEIBERLING	9/17/86	1
RECOMMENDATION FOR NPL LIST	RALPH REBULA	7/24/84	1
REQUEST FOR MORE ASSISTANCE	JOHN F. SEIBERLING	9/17/86	1
RECOMMENDATION FOR NPL LIST	HOWARD M. METZENBAUM	6/6/84	2
ENCROACHMENT TO CITIZENS DURING CLEANUP ACTIVITY	DON CASSETTY	12/30/86	1
AGREEMENT W/ REP. JOHNSON'S COMMENTS	DAVID L. HERBERT & D. HARNACK	12/6/86	1
IEL DELAYS AND SITE HISTORY	DON CASSETTY	8/15/86	2
CONCERNING ALTERNATIVES ARRAY	DIANE KOSHKIN	/ /	1
*** Total ***			40

ADMINISTRATIVE RECORD

INDUSTRIAL EXCESS LANDFILL
O.E.P.A. CORRESPONDENCE

	AUTHOR	DATE	PAGES
:SION STATEMENTS ON OPERATION & MAINTENANCE MANUAL	KEVIN BONZO	12/12/86	3
/ERSATION RECORD: GAS TESTING @ PUTINSKI RESIDENCE	JAY PLUCINSKI	1/23/87	1
IFICATION OF SUPERFUND ACTION	BASIL C. CONSTANTELOS	9/27/84	2
ONSE TO TELEPHONE INQUIRY: MR. DAVE JOHNSON	RICHARD BARTELT	9/14/84	2
TE CLEARINGHOUSE INTERGOVERMENTAL REVIEW	LEONARD ROBERTS	10/12/84	2
ENTS ON RI/FS	JAY PLUCINSKI	10/24/84	1
LOSURE STATEMENT TO THE SCOPE OF WORK RI/FS	IBID	10/10/84	1
VERSATION RECORD: TOWN MEETING INFORMATION	IBID	11/13/84	1
LOSURE STATEMENT: ANALYTICAL DATA	GARY GIFFORD	1/27/84	1
MARY STATEMENT OF E.& E. DRINKING WATER RESULTS TO: DAN MILLER	ERIN MORGN	/ /	2
D (WAYNE JENSON)	IBID	/ /	2
D (RUTH KATZENMEYER)	IBID	/ /	2
D (CHRIS BORELLO)	IBID	/ /	1
D (GARY GIFFORD)	IBID	/ /	1
D (BILL FRANKS)	IBID	/ /	1
D (DAN MILLER)	IBID	/ /	1
D (ROBERT INDIAN)	IBID	/ /	1
D (JENSON RESIDENCE)	IBID	/ /	1
D (COMMUNITY TIRE)	IBID	/ /	1
D (EGGERT RESIDENCE)	IBID	/ /	1
SPONSE TO THE STARK COUNTY BOARD OF HEALTH RESOLUTION	O.E.P.A.	2/28/85	2
VERSATION RECORD: W/ GARY GIFFORD	JAY PLUCINSKI	10/25/84	1
GAS CONTROL SYSTEM	GARY GIFFORD	10/31/85	1
A. COMMENTS ON DRAFT WORK PLAN	GARY GIFFORD	6/13/85	2
SPONSE TO ALLOCATION OF FUNDING FOR PH. II RI	U.S.E.P.A. REG.V	/ /	1
ATUS OF IEL / INTIATION OF RI	PETER L. WISE	8/12/86	1
TURE FUNDING	PETER L.WISE	8/12/86	1
SPONSE TO BETTY J. KITE CONCERNS	VALDAS V. ADAMKUS	/ /	4
SPONSE TO JAY PLUCINSKI'S ORIGINAL LETTER	CHRIS BORELLO	10/8/86	1
ESPONSE TO PHYLISS M. HARNACK'S CONCERNS REGARDING RI/FS	VALDAS V. ADAMKUS	/ /	3
MES & KAREN FIER CONCERNS ABOUT IEL	JAMES & KAREN FIER	11/25/86	2
			0
Total ***			47

ADMINISTRATIVE RECORD

INDUSTRIAL EXCESS LANDFILL
STATE AND FEDERAL LETTERS

SUBJECT	AUTHOR	DATE	PAGES
REVIEW OF DESIGN PLANS TO VENT AND FLARE LANDFILL GAS	JAY PLUCINSKI	1/29/85	1
REQUEST FOR GAS/WATER WELL TESTING	ART GAISOR	12/31/85	1
CONVERSATION RECORD: VIBRATIONS AT IEL	CONCERNED CITIZEN	1/21/87	1
METHANE SYSTEM CONCERNS	ART GASIOR	12/5/86	1
RESULTS FOR IEL DATA SET SF100 - A RESPONSE TO CDC REVIEW	CURTIS ROSS	2/01/84	2
METAL ANALYSES/ORGANIC ANALYSES/VOLATILE ORGANIC ANALYSES	ERIN MORAN	/ /	2
APRIL 7, 1986 MEMO FROM GREENBERG	MARGARET McCUE	4/15/86	1
CONFIRMATION OF DISCUSSION ABOUT SAMPLING ACTIVITIES	OSTRODKA	4/15/86	1
WASTE DISPOSAL	KEVIN McGEE	3/3/86	1
THE INSTALLATION OF GAS WELLS TO EXTRACT METHANE	J. PLUCINSKI	12/02/84	5
STATUS OF WORK ASSIGNMENT FOR RI/FS	CINDY WALLAT	12/27/84	1
CONVERSATION RECORD : AIR MONITORING	GREGG KULMA	12/12/85	1
SITE STATUS/COMMUNITY STATUS/PROBLEMS	MARGARET McCUE	5/2/84	1
CONVERSATION RECORD: KEITH GADWAY	J. PLUCINSKI	10/25/84	1
CONVERSATION RECORD: GAS MONITORING & MIGRATION	J. PLUCINSKI	7/25/85	1
GAS MIGRATION LETTER TO GREGG KULMA	J. PLUCINSKI	/ /	1
APPROVAL TO DAPP	JAMES H. ADAMS	8/19/86	3
FORWARDING OF MAPS MEMO - DEPT. OF THE ARMY	JACK R. NIEMI	12/2/85	2
SPECIFICATION STATEMENT ABOUT MAPPING - TO MR. CLAY LAKE	J. PLUCINSKI	/ /	7
			0
*** Total ***			34

ADMINISTRATIVE RECORDS

INDUSTRIAL EXCESS LANDFILL
LETTERS FROM CITIZENS

SUBJECT	AUTHOR	DATE	PAGES
CONCERNED CITIZEN	CHRISTINE BORELLO	05/28/84	4
STARK COUNTY HEALTH DEPT.	CITIZENS OF LAKE TWSHP	/ /	5
CONVERSATION RECORD	J. PLUCINSKI	01/30/87	1
CONVERSATION RECORD W/CHRIS BORELLO	ART GASIOR	02/20/87	1
CONVERSATION RECORD: HEALTH EFFECT & GAS SAMPLING	J. PLUCINSKI	01/22/87	1
CONVERSATION RECORD: ILLNESS/WELL/ GAS TESTING	J. PLUCINSKI	01/05/87	1
SUBMITTAL OF PETITION CONCERNING RESIDENTIAL WELL TESTING	CITIZENS OF LAKE TOWNSHIP	12/11/86	7
RECOMMENDATIONS FOR IMPROVING EPA'S DATA BASE	HENRY S. COLE	11/15/86	15
LETTER: CONCERNS TO LOCATIONS OF 6 BACKGROUND LEVEL SOIL TEST'S	DARLEEN LANSING	10/03/86	1
LETTER CONCERNING DISPATCHER FROM GOODYEAR	CHRIS BORELLO	03/15/86	1
TEST RESULTS OF AMBIENT AIR	CHRIS BORELLO	06/02/86	6
PUBLIC HEARING (APRIL 25) LETTER	IBID	05/01/86	2
"ELEVEN POINT BLUEPRINT FOR ACTIONS"	MAREN & WILLIAM STEWART	03/01/87	2
IBID	DON BELTZ	03/03/87	1
UPDATING INFO. FROM CITIZEN: PAD	CHRIS BORELLO	03/15/86	4
CONCERNED CITIZEN	IBID	/ /	5
BACKGROUND INFORMATION	IBID	/ /	2
COVER LETTER TO NEWS ARTICLE (ATTACHED)	CHESTER L. BROOKS	11/06/84	2
"GENERAL" REMARKS	IBID	10/24/84	1
STATING INVESTIGATION BY CITIZENS	C. BORELLO	09/10/84	2
CONVERSATION RECORD: "GAS FLARING OUT OF IEL" (C. BORELLO)	J. PLUCINSKI	12/19/84	1
CONVERSATION RECORD: "GAS FLARING AT IELF (B. MABEL)	J. PLUCINSKI	12/19/84	1
FOIA REQUEST FOR ALL CORRESP.	DARLEEN LANSING	10/11/84	1
CONVERSATION RECORD: NEGOTIATIONS W/PRP'S AT IEL	G. KULMA	05/10/85	1
LETTER FOLLOW UP ON PHONE CONV. REGARDING FAILURE OF RI'S CON. LAB	CITIZENS OF LAKE TWP.	02/02/86	2
CONVERSATION RECORD: DRINKING WATER TESTING (M. HEPLER)	MARGARET McCLE	01/29/86	1
LETTER: "COAL MINE SHAFT MYSTERY"	C. BORELLO	12/19/85	4
CONVERSATION RECORD: SPLIT SAMPLING	J. PLUCINSKI	10/21/85	1
LETTER CONCERNING CDC INVESTIGATION	GREG: VANDERLAAN	01/15/85	2
CONVERSATION RECORD: DARLENE LANSING CONCERNS ABOUT IEL PROBLEMS	M. McCLE	09/11/85	1
CONVERSATION RECORD: GAS LEVELS AROUND IEL	J. PLUCINSKI	08/28/85	1
CONCERN ABOUT POTENTIALLY EXPLOSIVE METHANE	CONCERNED CITIZENS	09/09/85	2
INFORMATION FROM C. BORRELO	C. BORRELO	04/22/85	1
CONVERSATION RECORD: CONCERNING C. BORELLO MISLEAD INTERPRETATION	J. PLUCINSKI	11/22/85	1
REQUEST FOR UPDATE ON PROGRESS OF ACTION @ IEL (ENCLOSERS INCLUD)	CHESTER L. BROOKS	12/04/85	8
SATISFIED CITIZEN CONCERNING ERA'S ACTION WITH EXPLOSIVE GASES	DARLEEN LANSING	12/17/85	3
CITIZENS EXPLANATION/UNDERSTANDING OF EPA'S LIMITATIONS	CITIZENS LK. TWP.	08/01/86	1
CONCERNED CITIZEN: REQUESTING MORE WELLS BE DRILLED	GREGORY REICHWEIN	01/05/87	1
		/ /	0

*** Total ***

ADMINISTRATIVE RECORDS
INDUSTRIAL EXCESS LANDFILL
Comments on Proposed Amendments to
Oil / Hazardous contingency plan

SUBJECT	AUTHOR	DATE	PAGES
INTRODUCTION	U.S.E.P.A. REGION 5	10/15/84	2
GENERAL COMMENTS	STEPHEN J. HOVANCSEK, GARY GIFFORD, ERIN MORAN	1/29/80	14
APPENDIX A: HAZARDOUS RANKING SYSTEM CRITQUE	FISHBECK, THOMPSON, CARR, HUBER	12/ /84	25
APPENDIX B: RPT. ON SAMPL'S OF RESID. WELL WATER @ IEL	EILEEN T. KOHR, CHRISTOPHER KHOUREY	3/27/84	25
APPENDIX C: CLOSURE PLAN AND APPROVALS FOR IEL			0
IBID	STEPHEN HOVANCSEK AND ASSOCIATES	5/6/80	3
IBID	RANDY K. WILSON	10/21/80	1
APPENDIX D: REFERENCES			0
IBID	STEPHEN HOVANCSEK AND ASSOCIATES	1/29/80	1
IBID	GARY GIFFORD	1/27/84	1
IBID	ERIN M. MORAN	No date	1
OHIO E.P.A. DATA SUMMARY OF SUR.84 WELL SAMP'S IEL AREA	O.E.P.A.	11/14/83	75
OHIO E.P.A. INTER OFFICE COMMUNICATION	O.E.P.A.	1/17/84	25
			0
*** Total ***			173

e No. 8
16/87

ADMINISTRATIVE RECORD

INDUSTRIAL EXCESS LANDFILL
PUBLIC HEALTH INFORMATION

JECT	AUTHOR	DATE	PAGES
JKEMIA IN WOBURN, MASS	CHR'C DIS'S DIV.CENT'R ENV. HEALTH	/ /	11
NCER IN WOBURN, MASS.	IBID	9/16/81	20
NTIBUTION OF ADSORBED PCB -TOTAL AIRB'E PCB DURING SOIL CLEAN UP	H.R. HOSEIN, L.GRAY, J.McGUIRE	/ /	2
TTERS FROM CATHLEEN ZINN	C. ZINN	T.M.T.L.	6
R ANALYSES	MARK GREENBERG	4/15/86	1
ILDHOOD CANCER IN SUFFIELD, PORTAGE COUNTY, OHIO	ROBERT M. INDIAN	5/27/87	3
DIATRIC CANCER IN FIELD LOCAL SCHOOL —	ROBERT M. INDIAN	9/25/86	2
FOLLOW UP " ON TELEPHONE CONVERSATION	CHRIS BORELLO	5/26/87	1
ESTIONS CONCERNING HELTH	TERRY L. WITSAMEN	6/4/87	4

ADMINISTRATIVE RECORDS

INDUSTRIAL EXCESS LANDFILL (IEL)
METHANE GAS VENTING DOCUMENTS

SUBJECT	AUTHOR	DATE	PAGES
OPERATION AND MAINTENANCE MANUAL: METHANE GAS VENTING	PEI ASSOC. & SCS ENGINEERS	12/ /86	50
WELL INSTALLATIONS & PRELIMINARY MONITORING RESULTS	SCS ENGINEERS	12/11/84	9
VENTING OF PRESSURIZED TOXIC GASES IN HAZARDOUS WASTE LANDFILLS	PAUL C. RIZZO		18
*** Total ***			77

ADMINISTRATIVE RECORDS
INDUSTRIAL EXCESS LANDFILL (IEL)
UNIONTOWN, OHIO
AIR MONITORING - METHANE CONTROL

SUBJECT	AUTHOR	DATE	PAGES
AIR ANALYSES : METHANE CONTROL	ENVIRESPONSE INC.	1/6-9/86	10
AIR ANALYSIS BY GC / MS	CAROL S. KIM & GEORGE KLINGER	2/3/86	40
GAS WELL EMISSION SAMPLING PROPOSAL	WADSWORTH TESTING LABORATORIES		9
SUMMARY REPORT ON GAS SAMPLING	GARY GIFFORD	4/11/85	5
ERT's AIR MONITORING GUIDES FOR UNCONTROLLED HAZARDOUS WASTE SITE	RODNEY D. TURPIN		3
WELL INSTALLATIONS AND PRELIMINARY MONITORING RESULTS	O.E.P.A.	12/11/85	15
INSTALLATION OF GAS WELLS TO EXTRACT METHANE	JAY PLUCINSKI		8
WELL INSTALLATIONS AND PRELIMINARY MONITORING RESULTS	SCS ENGINEERS	11/19/84	10
CONFIRMATION MEMO ABOUT MEETING W/ SUSAN MILLER & STEPHAN REILLY	STEPHEN A. REILLY	12/26/84	1
GAS WELL INSTALLATION REPORT	ELDREDGE ENGINEERING ASSOC.	12/11/84	32
METHANE RECOVERY SYSTEM (TDD#5 - 8410 - 54)	ROY F. WESTON	11/27/84	13
*** Total ***			146

ADMINISTRATIVE RECORDS

INDUSTRIAL EXCESS LANDFILL (IEL)
PRP / PUBLIC / COMMENTS ON FFS

REC	TITLE	DESCRIPTION	AUTHOR	DATE	PAGES
1	PRP COMMENTS ON FFS	COMMENTS ON FFS FOR IEL	FIRESTONE TIRE AND RUBBER CO., B.F. GOODRICH, GOODYEAR	9/9/87	24
2	PRP COMMENTS ON FFS	COMMENTS ON FFS FOR IEL	CHARLES KITTINGER, dba KITTINGER TRUCKING CO.	9/15/87	2
3	PRP COMMENTS ON FFS	COMMENTS ON FFS FOR EVALUATING ALTERNATIVE WATER SUPPLIES AT IEL	JOHN R. WERREN	9/9/87	2
4	PUBLIC COMMENT	DISCUSION OF NEWS ARTICLE AND COMPARISON TO IEL.	J. THREW (?)	9/8/87	1
5	PUBLIC COMMENT	CONCERNED CITIZEN ASKING FOR INFORMATION	E.W. LISTON	9/5/87	1
6	FFS COMMENT RECIEVED DURING PUBLIC MEETING	" CONFIDENCE IN EPA's WORK "	CITIZEN	8/25/87	1
7	FFS COMMENT RECIEVED DURING PUBLIC MEETING	CONCERN OF THE "CONTAMINATED AREA"	THERESA THOMPSON	8/25/87	1
8	FFS COMMENT RECIEVED DURING PUBLIC MEETING	QUESTIONS - RESPONSE FROM PRP's	NANCY MAKRICKAS	8/25/87	1
9	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	INSTALLATION OF WATERLINE FOR OTHER CITIZENS	PHYLLIS M. HORNACK	8/25/87	1
10	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	CONCERN ABOUT EPA's PROPOSED ALTERNATIVE WATER SUPPLY	CITIZEN	8/25/87	1
11	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	" WATER NEEDS TO BE SUPPLIED TO A 3 MILE RADIUS	CITIZEN	8/25/87	1
12	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	"WATER NEEDS TO BE SUPPLIED TO A 3 MILE RADIUS	CITIZEN	8/25/87	1
13	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	WATER NEEDS TO BE SUPPLIED TO A 3 MILE RADIUS	CARE SIMPSON	8/25/87	1
14	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	WATER NEEDS TO BE SUPPLIED TO A 3 MILE RADIUS	NICK D'DOTO	8/25/87	1
15	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	CONCERNED ABOUT EPA'S CONTAMINATED LINE AREA	ROBERT ROWELL	8/25/87	1
16	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	PREFERAL OF NORTH CANTON AS ALTERNATIVE WATER SUPPLY	SUSAN SIMPSEY	8/25/87	1
17	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	CITIZEN CONCERNED WETHER OR NOT PROPERTY IS "ONE OF THE HUNDRED"	PAT SHAFFER	8/25/87	1
18	FFS COMMENTS RECIEVED DURING PUBLIC MEETING	QUESTION: WATER SUPPLY TO UNIONTOWN ?	DON CASSITTY	8/25/87	1
19	HEALTH ISSUES, COMMENTED DURING PUBLIC MEETING	CONCERN ABOUT EPA's APPROACH TO CLEAN UP OF IEL	SUSAN DEMPSEY	8/25/87	1
20	WELL TESTING - BOUNDARIES	WHY IS S.R. 619 THE BOUNDARY ?	CITIZEN	8/25/87	
21	HEALTH ISSUE, COMMENTED DURING PUBLIC MEETING	QUESTION: IS THERE CONSIDERATION OF CANCER CASES & MISCARRIAGES IN THE STUDY	CITIZEN	8/25/87	
22	CONTAMINATION STUDY NEEDED, COMMENTED DURING PUBLIC MEET'G	WHERE'S THE CONTAMINATION @ HIDDEN KNOLL COMING FROM ?	CITIZEN	8/25/87	
23	INDIVIDUAL WELL TESTING, COMMENTED DURING PUBLIC MEET'G	RESIDENTIAL TESTING IN " MY AREA "	LINDA S. SHUSTEN	8/25/87	
24	COMMENTS ON CLEAN UP AT PUBLIC MEETING	RESIDENT WANT'S WATER TESTED	VIRGINIA SIDERI	8/25/87	
25	COMMENT & QUESTION DURING PUBLIC MEETING	RESPONSE FROM EPA's 13 POINT PLAN AND CRITIQUE, IS THERE ONE ?	BETTY JO KITZ	8/25/87	
26	FOLLOW UP ON RECENT LETTER	LETTER CONCERNING CAPACITY OF PROPOSED	REP. DAVE JOHNSON	8/24/87	

ADMINISTRATIVE RECORDS

INDUSTRIAL EXCESS LANDFILL (IEL)
PRP / PUBLIC / COMMENTS ON FFS

REC	TITLE	DESCRIPTION	AUTHOR	DATE	PAGE
REC 26	CONTINUED :				
	CONCERNING ALTERNATIVE WATER SUPPLY	WATER SUPPLY SYSTEM			
27	LETTER: ALTERNATIVE WATER - UNIONTOWN, OHIO	3 MILE RADIUS WATER SUPPLY SHOULD BE IMPLEMENTED	JIM & CAROLYN O'BRIEN	9/7/87	
28	LETTER FROM OHIO WATER SERVICE	INTERST IN SERVING UNIONTOWN, OHIO	MERRILL G. SLOAN	9/9/87	
29	LETTER CONCERNING PUBLIC COMMENT	REQUEST THAT EPA EXTEND CITY WATER, BRING WATER FROM NORTH CANTON	VICTOR E. TOLLESON	9/10/87	
30	LETTER FROM CITIZEN	REQUEST THAT ALTERNATIVE WATER SUPPLY BE BROUGHT TO 3 MILE RADIUS	SHERYL L. CODY	9/8/87	
31	LETTER: CONCERNING WATER QUALITY	UNIONTOWN SCHOOL WATER WELL, GREENTOWN ELEMENTARY SCHOOL WELL, PUMPING OF SEPTIC TANKS IN UNIONTOWN	CHECTER L. BROOKS	9/3/87	
32	NEWS ARTICLE	" UNIONTOWN PUPILS REPORT TO SCHOOL "	RUTH STERNBERG	9/2/87	
33	NEWS ARTICLE	" GREENTOWN SCHOOL WATER PASSES TEST "	KAREN P. LYNCH	8/28/87	
34	NEWS ARTICLE	" HEALTH SURVEY DELAY SOUGHT "	RUTH STERNBERG	9/1/87	
35	LETTER: COMMENTS ON IEL	GENERAL COMMENTS CONCERNING ASPECTS OF WATER CONTAMINATION	CHESTER L. BROOKS	8/28/87	
36	PUBLIC INFORMATION HANDOUT	ALTERNATIVES TO HAZARDOUS HOUSEHOLD CHEMICALS	COUNCIL ON HAZARDOUS MATERIALS		
37	PUBLIC INFORMATION HANDOUT	ZONING RESOLUTION		8/1/85	
38	REFERENCE TO LETTER	NON-PERSISTENT, BROAD SPECTRUM PEST - ICIDES pp. 284, 285			
39	NEWS ARTICLE	" LEAVE WEEDS ALONE "	CHESTER L. BROOKS	6/10/85	
40	NEWS ARTICLE	" HAZARDOUS WASTE DUMPING IN OHIO RAISES MANY QUESTIONS "	CHESTER L. BROOKS	5/19/85	
41	LETTER CONCERNING TOPICS AT AUGUST 25, 87 MEETING	DISCUSSION OF TOPICS ENCLOSED	CHESTER L. BROOKS	8/26/87	
42	LETTER: DISCUSION OF IEL ISSUES	GENERAL CONCERNS FROM CITIZENS	CHESTER L. BROOKS	8/27/87	
43	NEWS ARTICLE	" HARTVILLE AMONG TOXIC-WASTE DISPOSAL SITES SEEKING LICENSE		12/7/85	
44	LETTER: CONCERNED CITIZEN	CONCERN ABOUT FAMILY AND COMMUNITY HEALTH	W.J. WILLIAMS	9/7/87	
45	CONVERSATION RECORD	COMMENTS ON FFS: PREFER NORTH CANTON ALTERNATIVE	JULIE MATHIESIN	9/9/87	
46	LETTER: CONCERNING ISSUES FROM PUBLIC MEETING	EXTENSION OF WATER SUPPLY FROM NORTH CANTON TO UNIONTOWN	HAROLD L. LAURILA	9/1/87	
47	LETTER: ALTERNATIVE WATER SUPPLY FOR UNIONTOWN	REVIEW OF DATA/REPORT RECOMMENDATIONS	J.L. THOMAS	9/3/85	
48	LETTER: CONCERNING FORMAL COMMENT PERIOD ON FFS	CONCERNING GROUNDWATER FLOW WITH ATTACHMENTS		9/1/87	
49	LETTER: REGARDING FFS	CONCERN ABOUT EPA's DECISION OF ALT. WATER SYSTEM	GEORGE MARKOVICH	9/3/87	
50	LETTER: REGARDING FFS	COMMENTS ON PROPOSED PLAN FOR ALTERNATIVE WATER SUPPLIES @ IEL	JOESPH HADLEY	8/28/87	
51	CONVERSATION RECORD: WITH RICAHRD RASINSKI	FAMILY WANTS ALTERNATIVE WATER SUPPLY FROM NORTH CANTON	JULIE MATHIESIN	9/3/87	
52	LETTER: CONCERNED CITIZEN	CONCERNED CITIZEN EXPRESSES VIEW ON	MARY E. GMIGO	8/3	

ADMINISTRATIVE RECORDS

INDUSTRIAL EXCESS LANDFILL (IEL)
PRP / PUBLIC / COMMENTS ON FFS

REC	TITLE	DESCRIPTION	AUTHOR	DATE	PAGES
SEC 31	CONTINUED:				
		ACTION			
53	LETTER: CONCERNED CITIZEN	CONCERN OF CLEARLY IDENTIFIED TESTED WELLS	PETER J. BUIBA	8/31/87	1
54	LETTER: CONCERNED CITIZEN	PROTEST PROPOSED PLAN TO PROVIDE WATER AT UNIONTOWN SITE	PHILIP SCHIDT	9/4/87	1
55	CITIZENS ACTION PLATFORM FOR INDUSTRIAL EXCESS LANDFILL	PETITION: SIGNED BY CITIZENS WANTING U.S.E.P.A. TO FOLLOW THIER ACTIONS	CITIZEN ORGANIZATION	8/21/87	44
56	LETTER: REGARDING FFS	WATERLINE PROJECT - LAKEMORE TO UNIONTOWN	ERNEST E. DIRRIG	9/1/87	1
57	LETTER: REGARDING 8/25/87 MEETING	COMMENDING OF MEETING AND FFS	REP. RALPH REGULA	8/31/87	1
58	LETTER: CONCERNED CITIZEN	AGAINST U.S.E.P.A AND FFS	LINDA PUTINSKI	9/7/87	4
59	LETTER: CONCERNED CITIZEN	AGAINST FFS	MIKE PUTINSKI	9/8/87	1
60	LETTER: CONCERNED CITIZEN	EXPLANATION OF EPA DECISIONS TO UNIONTOWN ELEMENTARY SCHOOL	MIKE & LINDA PUTINSKI	9/4/87	1

*** Total ***

SUMMARY OF REMEDIAL ALTERNATIVE SELECTION
INDUSTRIAL EXCESS LANDFILL

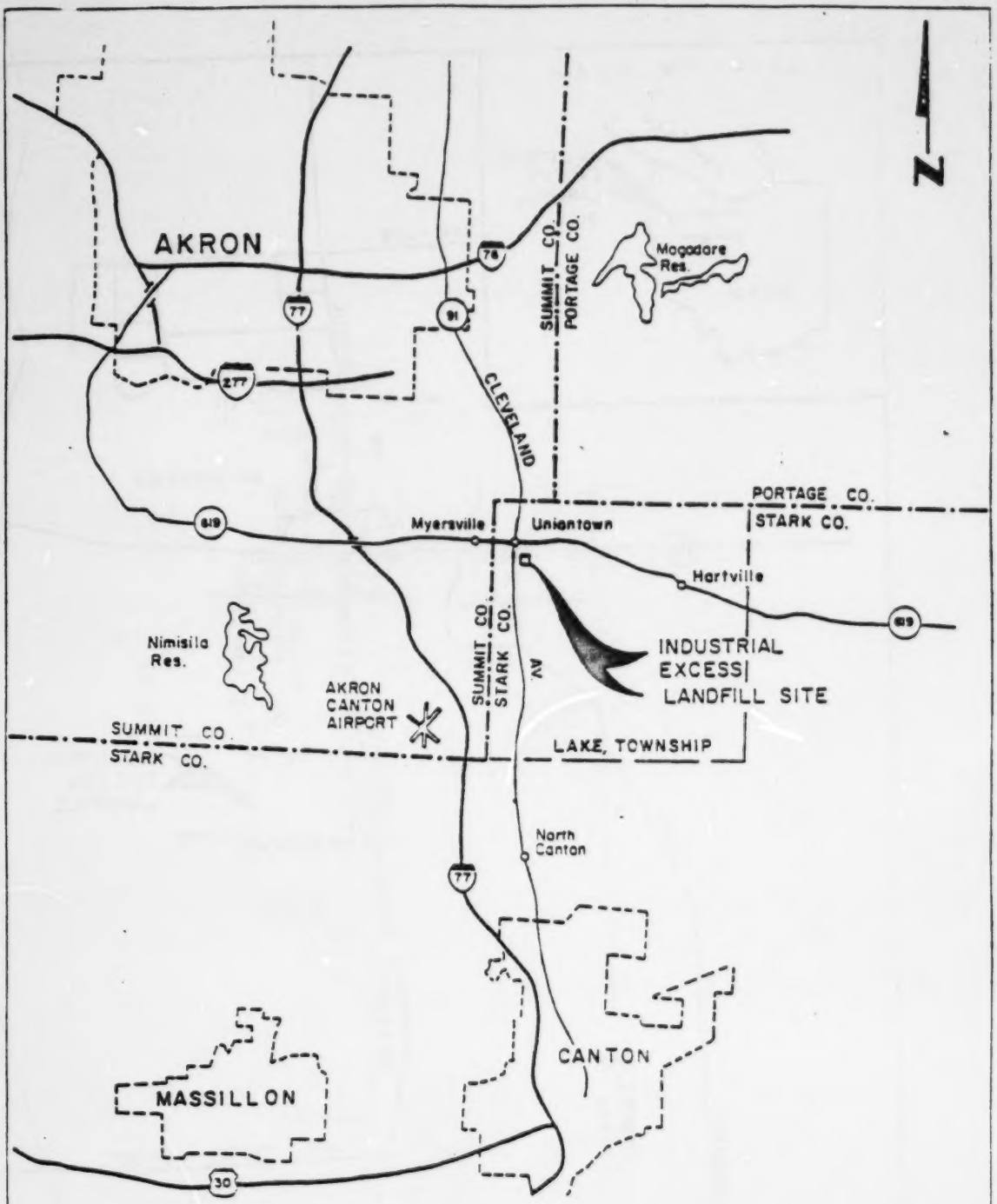
SITE LOCATION AND DESCRIPTION

The Industrial Excess Landfill is a closed sanitary landfill located in northeastern Ohio (southeast of Akron, and north of Canton) in the unincorporated town of Uniontown, in Lake Township of Stark County. It is located approximately a quarter mile southeast of the intersection of Cleveland Avenue and State Route 619 (figures 1-1 and 1-2).

The IEL site is located on a tract of approximately 30 acres which had previously been the site of mining operations (sand and gravel and possibly coal). The site is relatively flat with respect to the adjacent land on its north and west boundaries and slopes to the Metzger Ditch to the east and south. The landfill has a relatively pervious soil cover. The site is covered with a significant growth of vegatation and shrubs, especially on its sloped surfaces, and is partially fenced. About 80 percent of the site is believed to be underlain by buried solid waste materials. There are over 400 residential homes located within a 0.5 mile radius of the landfill. Most of the houses are to the north and west of the site.

Uniontown is one of several communities in the area which has no municipal water supply. All of the residents rely entirely on individual or private well supplies. Groundwater resources are available throughout Stark County. The major water-yeilding units for Stark County and the part of Summit County immediately northwest of Uniontown are sand and gravel deposits that occur as glacial outwash filling buried valleys. These thick and permeable sediments yield as much as 1000 gallons per minute or more to properly constructed industrial and municipal water wells. In the immediate area of Uniontown, these outwash deposits are thin or not present and domestic supplies can locally be secured from wells developed in the poorly sorted sand and gravel kame deposits. However, the majority of domestic wells in and around Uniontown obtain water from the upper portion of the underlying Pottsville Group (Massillon Sandstone and equivalents). The lower part of the Pottsville group, the Sharon Conglomerate, is an aquifer of moderate to high quality and a few high capacity industrial wells are developed in this deeper unit.

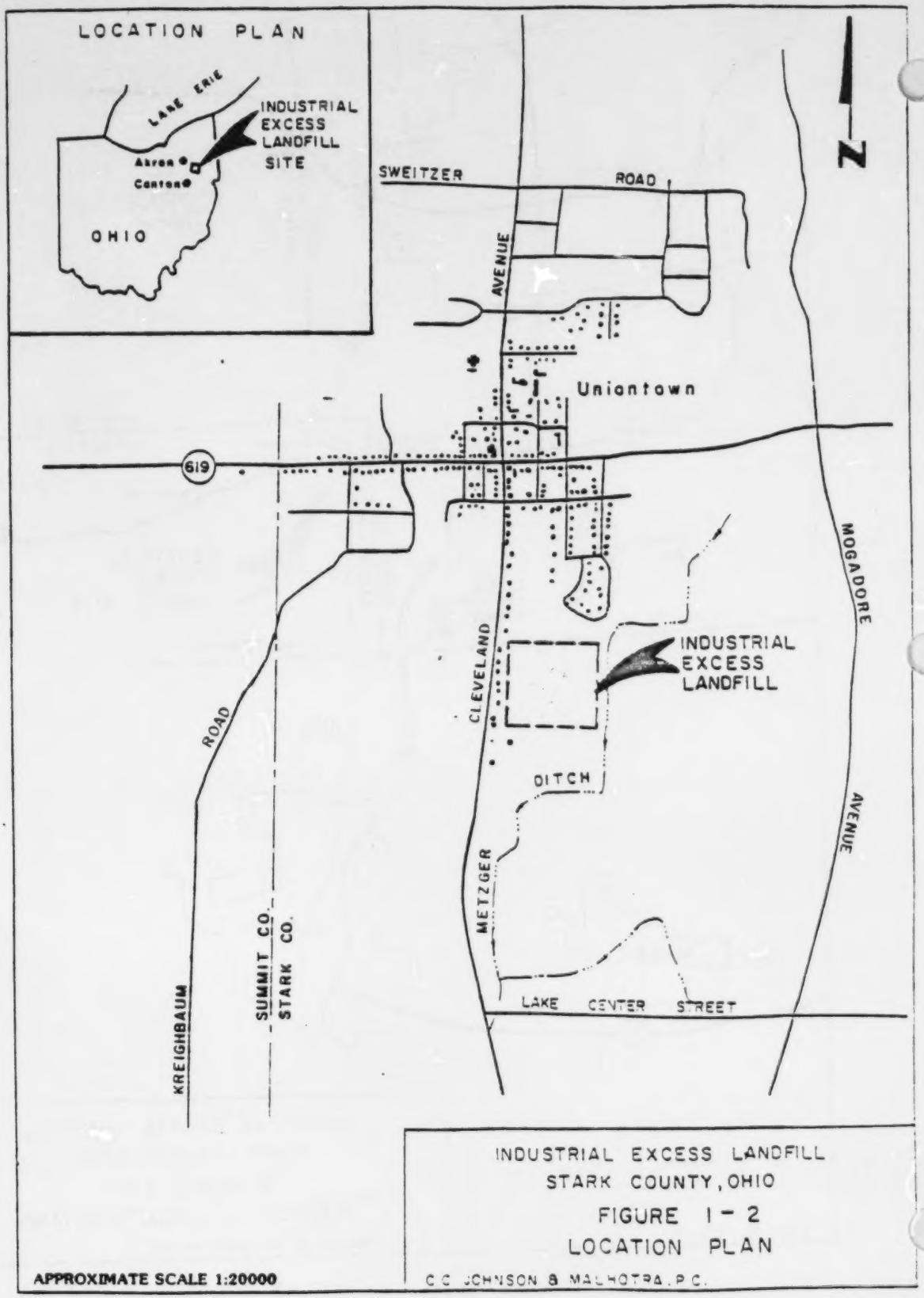
Due to the rolling nature of the topography at and near the IEL site, the depth to the surface of the water table ranges from zero, at Metzger Ditch, to 55 feet below the top of the hills to the north of the site. A number of domestic wells near the landfill, including all of the homes and businesses immediately to the west of the site between the landfill and Cleveland Avenue, tap the sand and gravel aquifer to their water supply. Near the site, these glacial deposits of sand, gravel, silt, and clay range in thickness from 60 feet to about 200 feet. This range in thicknesses is due to both variation in the surface topography and variation on the pre-glacial topography carved into the buried



INDUSTRIAL EXCESS LANDFILL
STARK COUNTY, OHIO

FIGURE 1-1
REGIONAL LOCATION MAP

C C. JOHNSON & MALHOTRA, P.C.


LOCATION PLAN
LAKE ERIE
INDUSTRIAL EXCESS LANDFILL SITE
Akron
Canton
OHIO
N
SWEITZER ROAD
AVENUE
Uniontown
619
MOGADORE
CLEVELAND
INDUSTRIAL EXCESS LANDFILL
ROAD
DITCH
METZGER
AVENUE
SUMMIT CO.
STARK CO.
KREIGHBAUM
LAKE CENTER STREET
INDUSTRIAL EXCESS LANDFILL
STARK COUNTY, OHIO
FIGURE 1 - 2
LOCATION PLAN
APPROXIMATE SCALE 1:20000
C C JOHNSON & MALHOTRA, P.C.

bedrock. The private wells that draw water from this glacial deposit typically are open to the aquifer some 20 to 60 feet below the top of the water table.

As noted above, the majority of private wells at Uniontown obtain water from the bedrock. These wells are cased through the glacial deposits and are open to the bedrock sandstone, siltstone, or shale from 20 to 80 feet below the top of the bedrock and as much as 160 feet below land surface. Examination of the drillers logs from private wells near the landfill and logs obtained during installation of monitoring wells around the site confirm that there are no laterally continuous low permeability layer or layers within the sand and gravel or within the upper portion of the bedrock. This finding indicates that, over long periods of time, the sand and gravel and immediately underlying bedrock at IEL will act as a single aquifer.

Bedrock in the area of the site consists of the Pennsylvanian age Pottsville Group. At the area of the site, the upper quarter of one half of this unit has been removed by erosion. At IEL the Pottsville group consistes of an upper unit (Massillon Sandstone and equivalents) of interbedded sandstone, siltstone, shale and minor limestone. This portion is 50 to 150 feet thick. Below this is the approximately 150 feet thick Sharon Conglomerate that, in the area of Uniontown, consists of pebbly sandstone with some interbedded siltstone and shale.

SITE HISTORY

The property where the landfill is located may have been utilized first as a coal mine and later was used for mining sand and gravel up until 1961. Gradually the mining pit/excavation was converted into a landfill which received a variety of municipal, commercial, and industrial wastes. The site was used to store fly ash, masonry rubble, paper and lumber scrap between 1964 and 1968. From 1968 to 1980 the site was operated as Industrial Excess Landfill for the disposal of a variety of solid waste materials.

During this time, the landfill accepted municipal, commercial, industrial, and chemical wastes of substantially undetermined and unknown composition, primarily from the rubber industry in Akron, Ohio. Large quantities of chemical and liquid waste were dumped onto the ground either from 55-gallon drums or from tanker trucks. Although much of the liquid wastes were listed as latex and oil at the time of disposal, witnesses have described the disposal of solvents and volatile industrial chemicals with foul odors.

The Stark County Board of Health (SCBH) ordered a stop to the dumping of chemical (liquid) wastes on January 24, 1972. In 1980, due to public concern and because the facility was reaching its volumetric maximum capacity, the SCBH and Stark County Court of Common Pleas ordered closure of the landfill. A closure plan was developed by Steven Hovanscek and Associates, a consulting engineering firm in Cleveland, under contract to owners. The landfill site was then covered and seeded.

In 1983, complaints by community residents prompted investigations to ascertain whether drinking water was contaminated and if health risks existed because of the site. The results of these investigations and the continued concern of the community provided the basis for the State of Ohio's submission of the site to the United States Environmental Protection Agency (U.S. EPA) as a National Priority List (NPL) condidate. In October 1984, U.S. EPA announced the inclusion of the site on the NPL. On December 26, 1984, a Work Assignment was issued for performance of a Remedial Investigation (RI) and Feasibility Study (FS) for the Industrial Excess Landfill site.

During the course of the comprehensive RI/FS, U.S. EPA discovered contamination of several private drinking water wells near the site. The Agency determined that the cause of the contamination was the migration of hazardous substances from the Industrial Excess Landfill. U.S. EPA implemented interim emergency actions to protect the residents in the short term until it could conduct a Focused Feasibility Study (FFS) to evaluate long term alternatives for the provision of safe drinking water to threatened and potentially threatened residents, in accordance with Section 118 of CERCLA. The FFS and resulting remedial action constitute an operable unit of the overall remedy for the site, in accordance with §300.68(c) of the National Contingency Plan. The comprehensive RI/FS will evaluate the overall remedy for the site and will be available in the future.

CURRENT SITE STATUS

Results of the U.S. EPA's Remedial Investigation at the site indicate the regional groundwater flow is east to west and that contaminants have migrated approximately 600 feet from the western edge of the landfill, impacting the groundwater of 10 homes. Some of the residential wells sampled contained organic contaminants (vinyl chloride and chloroethane) which are attributable to the landfill and inorganic contaminants (barium, copper, cadmium, and nickel) above background levels, also attibutable to the landfill. Some tentatively identified compounds (TICs), which are not part of the hazardous substance list (HSL), were also detected, as well as other organic compounds which cannot be attributed to the landfill.

Similarly, a number of organic and inorganic substances, as well as TICs, were detected above background levels in groundwater samples taken from shallow monitoring wells located onsite near the site borders.

A well-by-well comparison of chemical substances found in the residential wells to applicable or relevant and appropriate requirements (ARARs) for drinking water and other guidance and criteria, reveals that the observed levels of vinyl chloride (2 ppb to 7 ppb) in three of the 51 wells sampled are equal to or exceed the Safe Drinking Water Act Maximum Contaminant Level (MCL) of 2 ppb, Maximum Contaminant Level Goal (MCGL) of zero and Clean Water Act Ambient Water Quality Criterion (AWQC), adjusted for drinking water and corresponding to 10^{-6} excess lifetime cancer risk of 2 ppb.

The arsenic levels observed (<2 ppb to 7.1 ppb) are above the drinking water health advisory to protect sensitive members of the population and the AWQC, but significantly below the MCL of 50 ppb. However, arsenic appears to be naturally occurring in the area. Barium levels observed (2.1 ppb to 1,160 ppb) exceed the MCL of 1,000 ppb and the Ohio EPA standard of 1,000 ppb in two of the wells, but are less than the proposed MCLG of 1,500 ppb. All other chemicals on the HSL observed are either at levels below standards or are compounds that do not have standards.

Monitoring well data from onsite wells located near the site borders, especially from shallow monitoring wells, indicate that 1,2-dicloroethane, benzene, barium, chromium, lead and nickel are present in the groundwater at the peripheries of the site at levels which exceed standards.

A risk assessment of the levels of contaminants found in the residential wells and monitoring wells near the IEL site indicates that the short-term (2 years) and long-term consumption of groundwater from contaminated residential wells may result in unacceptable health risks (greater than 10^{-6} excess lifetime cancer risk). Also, adverse health risks may be associated with long-term (life time) consumption of groundwater containing the level of contaminants detected in the shallow monitoring wells.

This is demonstrated in Table 1.

ENFORCEMENT

Federal enforcement activities at the IEL site began in April 1985 with the issuance of notice letters to Hyman Budoff, an owner/operator, and several large tire companies who were generators of wastes disposed of at IEL. The notice letter requested that these PRPs voluntarily undertake the RI/FS. Negotiations with the generators did not result in a settlement to conduct the RI/FS. As a result, U.S. EPA conducted the RI/FS as a fund-lead project.

After discovering residential well contamination by hazardous substances migrating from IEL and taking short-term emergency actions to protect affected residents, U.S. EPA conducted an Operable Unit Focused Feasibility Study (FFS) for the provision of a long-term alternative water supply to affected and potentially affected residents. The FFS was released for public comment in August 1987. At the same time, U.S. EPA issued special notice letters to the owners/operators and several generators for the implementation of the FFS remedy. A 60-day statutory time period, with associated moratorium on remedial action, was established for receipt of a "good faith" proposal from the noticed PRPs. U.S. EPA will evaluate this proposal and determine whether an additional 60-day negotiation period, and associated moratorium on remedial action, is warranted.

TABLE 1
MONITORING WELLS
COMPARISON TO APPLICABLE AND RELEVANT AND APPROPRIATE REQUIREMENTS (ARAR) AND OTHER GUIDANCE AND CRITERIA
INDUSTRIAL EXCESS SITE

(all concentrations are ppb)

	Concentration in Monitoring Well[a]		Standard or Criterion								
						Drinking Water Health Advisories					
Chemical	Geometric Mean	Maximum	MCL	MCLG	AWQC	One-Day (Child)	Ten-Day (Child)	Longer-Term (Child)	Longer-Term (Adult)	Lifetime (Noncarcinogens)	Reference Concentrations (Carcinogens)
1,1-Dichloroethane	3.5	25	-	-	-	-	-	-	-		-
1,2-Dichloroethane	2.8	10	5	0	0.94(c)	740	740	740	2,600	NA	NA
Benzene	2.8	9	5	0	0.67(c)	233	233	NA	NA	NA	0.35
Toluene	1.2	5	-	2,000(p)	15,000	18,000	6,000	-	-	10,800	NA
Chlorobenzene	3.0	26	-	-	488	1,800	1,800	9,000	30,000	3,150	NA
Ethylbenzene	3.4	88	-	-	2,400	21,000	2,100	-	-	3,400	NA
Xylenes	3.7	240	-	440(p)	-	12,000	7,800	7,800	27,300	2,200	NA
1,4-Dichlorobenzene	10	13	75	75	470	10,700	10,700	10,700	37,500	3,750	NA
Bis(2-ethylhexyl) phthalate	NR	2	-	-	21,000	-	-	-	-	-	
Barium	390	1,740	1,000	1,500(p)	-	-	-	-	-	1,800	NA
Chromium	16	65	50	120(p)	50	1,400	1,400	240	840	170	NA
Lead	13	108	50	20(p)	50	-	-	10	10	10	0.031
Nickel	44	250	-	-	15.4	-	1,000	-	-	350	NA
Zinc	79	1,179	-	-	5,000(o)		-	-	-	-	

[a]Values given are for shallow monitoring wells.

All standards are as reported in (U.S. EPA, 1986a).

MCL = Safe Drinking Water Act Maximum Contaminant Level.
MCLG = Safe Drinking Water Act Maximum Contaminant Level Goal.
AWQC = Clean Water Act Ambient Water Quality Criterion adjusted for drinking water only.
p = Proposed
c = Corresponds to 10^{-6} excess lifetime cancer risk.
o = Based on organoleptic (damaging to bodily organs) criteria.
s = Secondary MCL, based primarily on organoleptic (damage to bodily organs) or aesthetic criteria.
NA = Not applicable.
- = No standard or criterion available.

In mid-1987 U.S. EPA received disposal records from the owner/operator. We are currently developing this information in order to issue information requests and, if appropriate, notice letters to any additional generator or transporter PRPs.

COMMUNITY RELATIONS

Community involvement at the IEL site has been very high. Residents, the press and State and Federal officials have maintained a constant and serious interest in U.S. EPA activities at the site.

Copies of the FFS were made available to the community on August 12, 1987. An information repository is located at the Lake Township trustees office in Hartville, Ohio. The U.S. EPA issued a press release announcing the availability of the FFS, location of the repository, the August 12 - September 10, 1987 public comment period, and on August 25, 1987 public meeting at the Uniontown Community Public Hall in Uniotown, Ohio.

The public meeting was attended by 200-300 very interested residents, news media and public officials. During the meeting, the U.S. EPA presented the FFS, described the alternatives considered, recommended connection to the Village of Lakemore Water System as the Preferred Alternative, answered questions regarding the study, and accepted public comments.

Many of the comments received during the public comment period asked that U.S. EPA expand the area receiving the alternate water and that sources other than the Village of Lakemore be considered. The Responsiveness Summary to the public comments is attached to this document.

ALTERNATIVES EVALUATION

The major objective of the FFS conducted for the IEL site was to evaluate remedial alternatives using criteria consistent with the goals and objectives of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by SARA. The National Oil and Hazardous Substances Contingency Plan (NCP), 40 CFR 300.68, outlines the procedures and criteria to be used in selecting the appropriate remedial alternative that is cost effective, implementable and effectively mitigates and minimizes threats to, and provides adequate protection of, public health and welfare and the environment.

Response action may be conducted as an operable unit which is a discrete response measure that may precede selection of an appropriate final remedial action. This is consistent with 40 CFR 300.68 (c) and the practice of phasing remedial actions at sites that present complex cleanup problems. The primary objective of the FFS operable unit is to protect human health by providing a reliable supply of safe, potable water to residents whose groundwater is currently contaminated or has the potential for being contaminated by IEL before the site

itself is remediated.

Eleven alternatives and technologies were initially identified and evaluated for about 100 homes in the potentially affected area. (Shown in Figure 1-3). U.S. EPA used a logical approach for determining the extent of the area to receive alternate water. U.S. EPA calculated the rate of contaminant migration based on hydrogeological data collected during the Remedial Investigation. The Agency then used this rate to project how far from the site contaminants may migrate over a five year period. Five years was used as the time which would be necessary to design and implement an aquifer restoration remedy. The potentially impacted area includes approximately 40 homes (Scenario 1 in FFS). Recognizing that groundwater flow and contaminant migration predictions are not exact sciences, and that predictions concerning the timing and effectiveness of remedial action are not always fulfilled, U.S. EPA used its discretion to supply water to an additional area (approximately 60 more homes) that includes a margin of safety and does not separate blocks of homes. If any error is made judging the progress of groundwater contamination or the timing of the future aquifer restoration, the Agency believes it is better to protect more homes than necessary rather than fewer. While U.S. EPA has attempted to map as accurately as possible the likely spread of contamination before a permanent remedy halts further migration, it also included a safety margin to ensure adequate protection of public health. In addition, the incremental cost for including the 60 additional homes is relatively minor when compared to benefits derived from provision of maximum protection. The alternatives were screened and evaluated based on their effectiveness, implementabilty and cost. A summary can be found in Table 2.

Four of the original eleven alternatives passed the initial screening and a detailed evaluation was conducted. The four alternatives include:

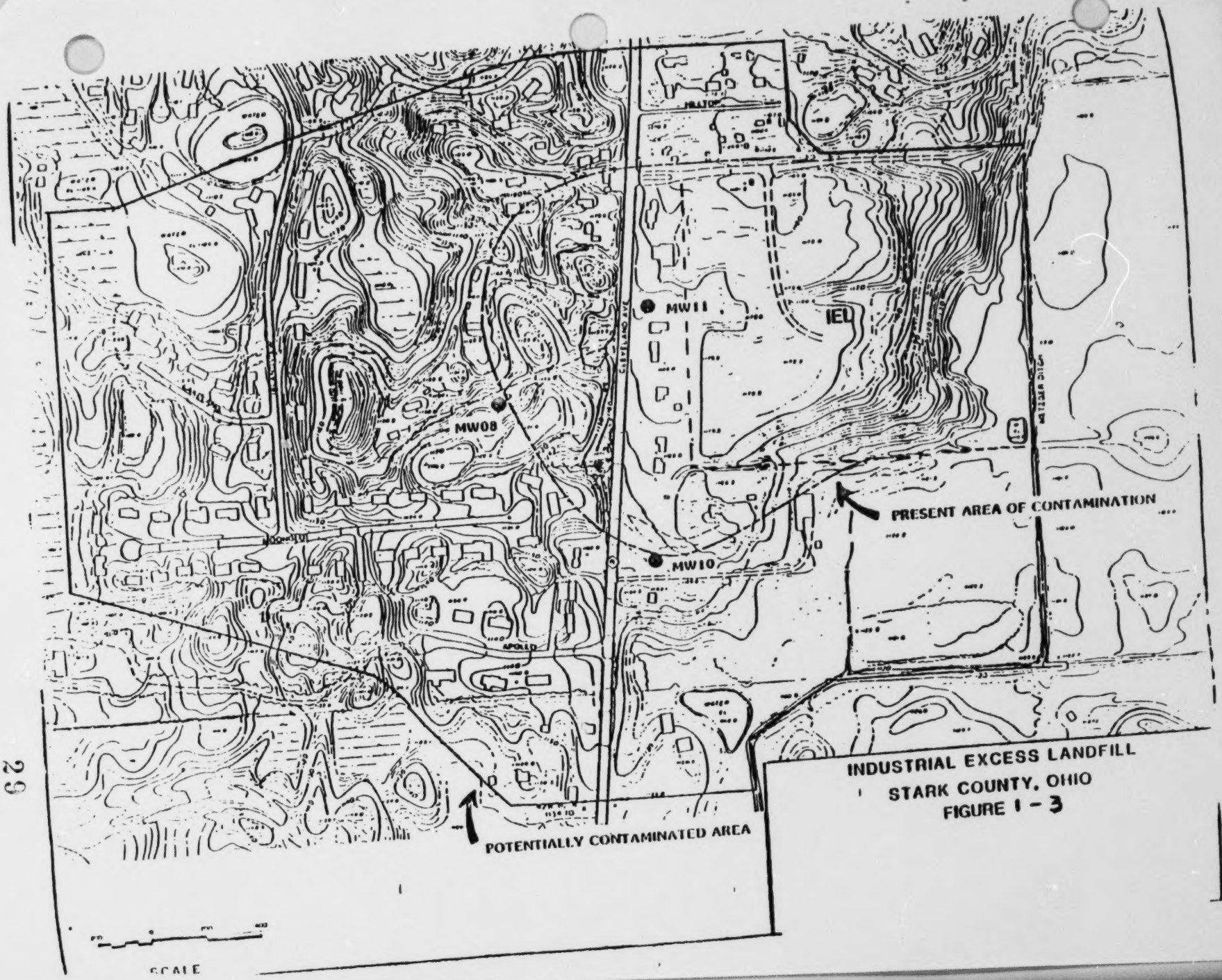
- No action;
- Construct a new community well supply into the Pottsville Group aquifers upgradient of the IEL site;
- Connect to the City of North Canton water system;
- Connect to the Village of Lakemore water system.

These four alternatives were then subjected to detailed evaluation of their effectiveness, implementability and costs. The results of the detailed evaluation are presented in Table 3.

DESCRIPTION OF ALTERNATIVES

No Action

The "No Action" alternative is designed to provide a basis for comparing the other alternatives. It may include some monitoring and analysis, but primarily



INDUSTRIAL EXCESS LANDFILL
STARK COUNTY, OHIO
FIGURE 1 - 3

TABLE 2

SUMMARY OF INITIAL SCREENING OF ALTERNATIVES

ALTERNATIVE	TECHNICAL ASPECTS			EFFECTS OF ALTERNATIVE		RELATIVE COST	RESULT OF INITIAL SCREENING
	FEASIBILITY	TIME REQUIRED TO IMPLEMENT	RELIABILITY	ENVIRONMENTAL IMPACT[a/] [b/]	ABILITY TO PROTECT PUBLIC HEALTH		
No Action	—	Immediate	Poor	None	Poor	None	Eliminated - contaminant levels are above acceptable levels
In Home Water Treatment	High	1 Month	Poor	None	Poor (unproven)	Moderate	Eliminated - Unreliable and impractical
Bottled Water for Potable Use	High	1 Month	Poor	None	Poor	High	Eliminated - Expensive and unreliable for long-term use, still allows exposure to contaminants through non-potable use. No community support.
Treatment in clusters of contaminated water and supply of treated water	High	12 - 18 Months	Moderate	Temporary and minor during construction	Moderate	High	Eliminated - Expensive and unreliable for long-term use
Central treatment of contaminated water from individual wells and supply of treated water	High	12 - 18 Months	Moderate	Temporary and minor during construction	Moderate	High	Eliminated - Expensive and unreliable over long-term.
Develop new community wells into Sharon Conglomerate Unit of Pottsville Group Aquifers Upgradient of IEL Site and Water Distribution System	High	12-18 Months	Good	Temporary and minor during drilling and construction	Good	Moderate to High	Consider further

TABLE 2 (Cont'd)

ALTERNATIVE	TECHNICAL ASPECTS: FEASIBILITY	TECHNICAL ASPECTS: TIME REQUIRED TO IMPLEMENT	TECHNICAL ASPECTS: RELIABILITY	EFFECTS OF ALTERNATIVE: ENVIRONMENTAL IMPACT[a/] [b/]	EFFECTS OF ALTERNATIVE: ABILITY TO PROTECT PUBLIC HEALTH	RELATIVE COST	RESULT OF INITIAL SCREENING
Develop new individual wells into Pottsville Group Aquifers	High	6-8 Months	Moderate	Temporary and minor during drilling. Well could get contaminated over long run at isolated locations due to contaminant movement	Short-term acceptable Long-term unknown	Moderate	Eliminated - since contamination plume dimensions unknown, and aquifer may be susceptible to contamination, thus unreliable for long-term use.
Obtain water from adjacent water systems							
a. City of North Canton	High	12-18 Months	Good	Temporary and minor during construction	Good	High	Consider further
b. City of Akron	Poor	18-24 Months	Good	Temporary and minor during construction.	Good	High	Eliminated - This is the most costly of the alternatives studied in detail. Poor feasibility due to transfer of water over international water boundaries involved.
c. Village of Lakemore	High	12-18 Months	Good	Temporary and minor during construction	Good	High	Consider further
d. Ohio Water Service Company, Massillon, Ohio	High	18-24 Months	Good	Temporary and minor during construction	Good	High	Eliminated - Second most expensive alternative. Also involves expressway crossing and a long time for implementation.

a/ None of the alternatives considered are designed to mitigate the contamination problem in the affected area.

b/ This colum refers to the environmental impact of the alternative if it is implemented.

TABLE 3

WATER SUPPLY ALTERNATIVES FOR POTENTIALLY AFFECTED AREA GROUND-WATER USERS OF UNIONTOWN

Alternative	Cost ($1,000) Capital	Present Worth 5%	Present Worth 10%	Public Health Concerns	Environmental Concerns	Technical Concerns	Community[b] Response Concerns	Others
Construct new well supply system	1,601	1,905	1,799	Reduce public health threat to less than 10^{-6} risk	Does not mitigate contamination problem[c]	May have some difficulty developing wells adequately and mechanical failures; equipment replacement	None to low resistance	Hard water and minim fire protection
. Connection to North Canton water system	1,709	2,626	2,289	Reduces public health threat to less than 10^{-6}	Does not mitigate contamination problem[c]	Mechanical failure, trunk line leak/burst	Low resistance	Highest O&M costs du softened water and l surcharge, involves trunk line
1. Connection to Lakemore water system	1,823	2,325	2,149	Reduces public health threat to less than 10^{-6} risk	Does not mitigate contamination problem[c]	Mechanical failure, trunk line leak/burst	Low resistance	Hard water and invol long trunk line.

Includes capital, annual O&M and annualized equipment replacement cost

Estimated based on participation in the local public and other meetings during remedial investigation

These alternatives are not planned to mitigate the contamination problem

provides an assessment of what would happen with the unhampered continuation of the existing situation.

Construct a New Well Supply

This alternative involves the construction of primary and stand-by wells located upgradient from the IEL site. The wells would be completed in the Sharon Conglomerate Unit of the Pottsville group of aquifers. A distribution system also would be constructed to convey the water. The Pottsville group is the bedrock group of aquifers underlying the unconsolidated glacial deposits (the glacial deposits are approximately 50 feet to 100 feet thick). The Pottsville group consists of an upper unit of interbedded sandstone, siltstone, shale and minor limestone underlain by the coarse, water-bearing pebbly sandstones of the Sharon Conglomerate. The Sharon Conglomerate unit is considered the most productive of the Pottsville Group aquifer and lies from 200 feet to 300 feet below ground surface.

This alternative makes use of pressure (hydropneumatic) tanks to provide storage. It does not include provisions for fire demand. It includes chlorination to meet health requirements but no softening of the hard water generally encountered in the Uniontown area. The community wells would be located in the vicinity of the residences to be serviced.

This alternative would supply an adequate amount of water. The water may be somewhat harder than that currently used by many of the residents in the potentially affected area. To meet health requirements, the water should be chlorinated. This alternative relies on proven technologies and should not present any engineering problems in implementation. This alternatives would not require unusual water quality or operational monitoring.

Connect to City of North Canton

The City of North Canton is located south of Uniontown and obtains its drinking water from wells. The water is softened to a hardness of 100 mg/l to 120 mg/l as calcium carbonate ($CaCO_3$). The North Canton system is currently operating at about 50 percent of its design capacity of 4.0 mgd. The City has a policy of serving customers outside the city limits without annexation of the service area. However, customers outside the city limits are charged a surcharge of approximately 100 percent of the basic city rate. The nearest city water main currently available is located east of the Akron-Canton Airport at the intersection of Cleveland Avenue and Lee Street, about four miles south of Uniontown. This alternative would require construction of a trunk line from North Canton to the affected area, a booster pump station, and a distribution system to supply individual residences.

This alternative relies on proven technologies and should present no engineering problems in its implementation. This alternative would not require water quality or operational monitoring and will provide adequate quantities of good quality water.

Connect to Village of Lakemore

The Village of Lakemore is located approximately 2.5 miles northwest of Uniontown and obtains its water from wells completed in a bedrock aquifer. The well water has a hardness of about 220 mg/l as $CaCo_3$. The Village water system is currently operating at about 40 percent to 50 percent of its design capacity of 0.57 mgd. The village has a policy of serving customers outside of village limits without annexation of the service area. However, outside customers are charged a surcharge of about 30 percent. The Village of Lakemore water rates are the lowest of all the major water systems investigated in the vicinity of Uniontown. Lakemore is currently in the process of enlarging their service area.

The provision of water to Uniontown would involve the extension of an existing, adequately sized main from Waterwork Park to the intersection of Cleveland Avenue and Sanitarium Road (about 2,000 feet closer to the Uniontown service area). The nearest village water main currently available with adequate capacity is located northwest of the Cleveland Avenue and Sanitorium Road intersection, about four miles northwest of the affected area.

This alternative would require construction of a trunk line from the Lakemore system, a booster pump station and a distibution system to supply water to the users. Because of the relatively high hardness and iron content of the Lakemore water, the users would have to continue using their existing water softeners.

This alternative relies on proven technology and should present no engineering problems in its implementation. This alternative would not require unusual water quality or operational monitoring and will provide adequate quantities of good quality water.

As a result of comments received during the public comment period, U.S. EPA preliminarily evaluated a fifth alternative, connection to the Summit County-Country Club Village Community Water Supply.

Country Club Village Community Water Supply

The Country Club Village Community Water Supply is located approximately two miles west-southwest of Uniontown and obtains its water from two wells completed in the Sharon Congolmerate of the Pottsville Group. The system includes a 400,000 gallon elevated storage facility. The well water has a hardness of about 200 to 250 mg/l as $CaCO_3$ and, like most well water in the area, contains relatively large amounts of iron and manganese. The water system, which is owned and operated by Summit County, is currently operating at 30-45 percent of its design capacity of 0.75 mgd. Summit County has tentative plans to drill another well to augment the existing system. Existing wells are equipped with chlorination units. A 12-inch water main is available just south of the intersection of Raber Road and Gleneagles Boulevard.

The provision of water to Uniontown would require the construction of both a trunk line from Country Club Village and a distribution system to supply water

to the users. Due to uncertainties regarding system hydraulics, a booster pump station having at least two pumps has also been included in the cost estimates. The pumps would be capable of pumping 500 gpm at 50 to psi; and would be regulated automatically using pressure switches installed downstream of the booster pump station. The pump station would be located near the intersection of Raber Road and Gleneagles Boulevard. Water supplied to Uniontown would be metered at this station. Most of the required equipment (booster pumps, valves, flow meter, and controls) would be housed in a brick and block building measuring approximately 12 feet by 12 feet in dimension.

The water obtained from the Country Club Village Community Water Supply is hard and the use of this water in Uniontown would warrant continued use of existing home softeners. No additional treatment or water quality monitoring would be required. Summit County would operate and maintain the booster pump station and that part of the 12-inch diameter trunkline located within Summit County. The remaining portion of the 12-inch trunkline and the distribution system itself, consisting of 3,200 feet of 6-inch diameter mains, 6,700 feet of 8-inch diameter mains, and 100 service lines, would be operated and maintained by the users or their designee, such as Lake Township, Stark County or Summit County.

Evaluation of Alternatives

The "No Action" alternative would not assure protection of human health, because the exposure threat from drinking contaminated water would remain. Selection of this alternative would also have low community acceptance. Because this alternative does not meet the response objective for protecting human health, it was not evaluated further.

In accordance with Section 121(b)(1)(D) of CERCLA as amended by SARA, the four remaining alternatives rank equally in their ability to protect public health and the environment by eliminating exposure to contaminated groundwater through the provision of drinking water that would attain the ARARs, as required by Section 121(b)(1)(C). None of the alternatives address reduction of toxicity, mobility and persistence since they all involve replacement of an existing contaminated water supply with a new water supply. These factors will be addressed in the remedy to remediate groundwater contamination in the aquifer.

The four alternatives all provide long-term effectiveness by replacing contaminated water supplies within the present and potential areas of contamination. Implementability varies for each of the alternatives. Each alternative relies on proven technology and should present no engineering problems in implementation and operation. Therefore, the potential for failure and future remedial action costs are minimal. This satifies Section 121(b)(1)(F). The time to implement is similar for all four alternatives. Costs are also within an order of each other, ranging from $1.7 million to $2.3 million.

Establishing a new community well for such a small portion of the community would have major administrative implementation problems. A community water

district would have to be formed, and a recognized governmental body will have to serve as backup for system operation. However, if the area receiving the water is expanded, as indicated by comments received, administrative problems with developing a water district for a larger geographic area may become less significant when weighed against the advantage of the community having its own water system.

The three remaining alternatives are differentiated by cost [initial capital costs, replacement costs, and long-term maintenance costs, per Section 121(b)(1)(E)], with connection to the Country Club Village system being the least costly, and connection to the City of North Canton being the most costly. The Ohio Environmental Protection Agency has indicated that both the Country Club Village system and the Village of Lakemore system may be required to install iron removal facilities in the near future. This may result in a cost increase for the two alternatives that, if substantial, would result in their being less cost effective than the connection to the City of North Canton. North Canton's system has a much larger capacity than either the Country Club Village or Village of Lakemore systems. If the community does formally commit to fund an expanded area, the North Canton option would be more viable. There are, however, questions remaining concerning the quality of that water, as low levels of VOCs have been detected in several wells which are not currently utilized to supply water.

Due to the nature of this operable unit, Section 121(b)(1)(A,B, and G) were not applicable to the evaluation of alternatives.

SELECTED REMEDY

The National Oil and Hazardous Substances Contingency Plan (NCP) [40 CFR Part 300.68(i)] states that the appropriate extent of remedy shall be determined by the lead agency's selection of the remedial measure which the agency determines is cost-effective (i.e., the lowest cost alternative that is technologically feasible and reliable and which effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare, or the environment). Based on the evaluation of effectiveness, implementability and cost of each proposed alternative, the comments received from the public and the Ohio EPA and the State and Federal environmental requirements, connection of approximately 100 homes to an alternate water supply has been determined to be the most appropriate alternative. This alternative is fully protective of human health, cost effective, and will attain all applicable or relevant and appropriate federal and state requirements.

The selected remedy involves providing alternate water to an area comprised of approximately 100 homes located west of the IEL site. Connection to the Village of Lakemore had been U.S. EPA's recommended alternative. However, based on numerous comments asking that U.S. EPA consider sources of water other than the Village of Lakemore, as well as concerns regarding water quality and capacities, U.S. EPA is deferring the decision on the source of the water. This decision will be made after initial design activities are completed and more detailed technical data pertaining to the water systems considered in the preceeding Evaluation of Alternatives section have been reviewed. The evaluation of the

water supply to be utilized will be submitted as part of the preliminary design report when the design is 30 percent complete.

This remedial action meets the two conditions established by Section 300.68(c)(1) and (3) of the NCP: 1) the measures to be undertaken must be cost effective; and 2) they must be consistent with a permanent remedy. This remedial action is cost effective. Numerous remedial alternatives were evaluated considering technological feasibility, cost, reliability, public health, and administrative criteria. Based on this evaluation, a cost-effective remedial alternative that effectively mitigates threats to, and provides adequate protection of, public health was selected.

The selected remedy does not adversly effect any of the potential final remedial actions, including minimization and mitigation of the groundwater contamination. Although this operable unit will not eliminate the groundwater contamination, it will minimize the threat posed by the IEL site until such time as a overall site remedy is selected by U.S. EPA. Any such remedial action will take time to implement. In the meantime, contaminants will continue to migrate from the landfill and threaten drinking water supplies. Providing alternate water supplies will protect public health until an overall remedy can take effect. This is fully consistent with a permanent remedy.

The 30 year present worth value for the recommended alternative, at a discount rate of 10 percent, can range from $1,715,870 for connection to the Country Club Village system to $2,289,060 for connection to the City of North Canton system.

SCHEDULE

° Approval of Remedial Action (sign ROD)	9/87
° Complete Design	3/88
° Advertise for Competitive Bids	3/88
° Open Bids	4/88
° Contract Award	5/88
° Notice to Proceed	6/88
° Estimated Construction Period	12-18 months
° Construction Complete	12/89

FUTURE ACTIONS

U.S. EPA recently completed Phase II Field Activities of the comprehensive RI/FS for the site. The remaining tasks of the RI/FS will be completed in late 1987. The FS will recommend a remedial action for the site. A Record of Decision for the site is scheduled for March 1988.

INDUSTRIAL EXCESS LANDFILL SITE

UNIONTOWN, OHIO

RESPONSIVENESS SUMMARY

The United States Environmental Protection Agency (U.S. EPA) recently held a public comment period, August 12 - September 10, 1987, for interested parties to comment on U.S. EPA's August 1987 Focused Feasibility Study (FFS) and Proposed Plan for providing alternate water at the Industrial Excess Landfill (IEL) site. At the time of the public comment period, U.S. EPA had announced its recommended alternative for the provision of alternate water.

The purpose of this responsiveness summary is to document U.S. EPA's responses to comments received during the public comment period. All of the comments summarized in this document will be factored into U.S. EPA's final decision.

This responsiveness summary is divided into the following sections:

I. Responsiveness Summary Overview - This section briefly outlines the proposed remedial alternatives as presented in the FFS, including the recommended alternative.

II. Background on Community Involvement and Concerns - This section provides a brief history of community interests and concerns regarding the IEL site.

III. Summary of Comments Received During the Public Comment Period and U.S. EPA's Responses - This section summarizes both written and oral comments received from the public and provides U.S. EPA's responses. These comments are organized by subject area. Comments from the Potentially Responsible Parties (PRPs) appear separately from the other comments.

IV. Remaining Concerns - This section describes concerns that U.S. EPA feels need to be addressed in greater detail, and before the design and implementation of the remedial alternative.

Attachment A - This attachment includes a list of the community relations activities conducted, to date, at the IEL site.

Attachment B - This attachment includes a list of Tentatively Identified Compounds (TICs) found in on-site and off-site groundwater samples.

Attachment C - This attachment contains a brief analysis of the Country Club Village Community Water Supply, which was submitted by the PRPs as an alternate source of water.

I. RESPONSIVENESS SUMMARY OVERVIEW

A. Proposed Alternative and Recommended Alternative

The FFS identifies and evaluates alternate water supplies for the area impacted by the IEL site. Eleven alternatives and technologies were initially identified and evaluated for about 100 users in the potentially affected area. The alternatives were screened and evaluated based on their effectiveness, implementability, and costs.

Four of the original eleven alternatives passed the initial screening and a detailed evaluation was conducted. The four alternatives included:

1. No action;
2. Construct a new community well supply upgradient of the IEL site;
3. Connect to the City of North Canton water system;
4. Connect to the Village of Lakemore water system.

These four alternatives were then subjected to a detailed evaluation of their effectiveness, implementability and costs. U.S. EPA's recommended alternative was to connect the approximately 100 homes in the potentially affected area to the Village of Lakemore's water system. The groundwater contamination problem will be further addressed in the overall RI/FS for the site.

B. Public Comments on the Remedial Alternatives

Forty parties submitted formal written comments to U.S. EPA during the public comment period: Congressman Regula, State Representative Johnson, Concerned Citizens of Lake Township (CCLT), Families for Safe Water, Northeast Ohio Four County Regional Planning Organization (NEFCO), Hammontree & Associates (consulting engineers), Lake Township Trustees, Stark County Metropolitan Sewer District, and local citizens. In addition, a number of comments were received at the public meeting from the aforementioned groups. A petition containing approximately 1200 names of area residents was also submitted to U.S. EPA during the meeting. Formal comments were also submitted by law firms representing the PRPs, including: Hyman Budoff, Firestone Tire & Rubber Company, B.F. Goodrich Company, Goodyear Aerospace Corporation and Goodyear Tire

and Rubber Company.

In general, the commenters (except the PRPs) acknowledged the need for an alternate water supply at the IEL site. However, most commenters felt that the area proposed by U.S. EPA to receive this water should be expanded to include all homes within a three-mile radius of the site. Consequently, many citizens requested that U.S. EPA consider connecting to the North Canton water system, since it has a greater capacity than the Lakemore system and can therefore, provide water to a larger area.

The PRPs felt that the FFS and U.S. EPA's recommended alternative for obtaining an alternate water supply from the Village of Lakemore are premature. They do not agree that an alternate water supply is necessary, and that any alternate water supply proposal can only be properly evaluated once the RI/FS for the entire site has been completed. In addition, the PRPs feel that U.S. EPA has not adequately evaluated available alternatives.

II. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

The major concerns of the Uniontown Community have been the following: 1. Potential groundwater contamination and associated public health risks, 2. Explosive levels of methane gas in nearby residences and management of landfill gases through controlled venting, and 3. Property devaluation. The Industrial Excess Landfill (IEL) operated from 1968 to 1980, during which time it accepted residential, commercial and industrial wastes. Initial sampling of groundwater and leachate by the Ohio Environmental Protection Agency (OEPA) indicated that low levels of organic contaminants, including phenol, xylene, methylene chloride and tetrachloroethylene, were present. Current interest in the IEL site developed in mid-1983. Members of the community were concerned about a perceived high rate of miscarriages and other health problems in several neighborhoods located near the landfill. Residents claimed that these problems, or health complications, resulted from drinking water that was contaminated with substances from the landfill. In 1984, community concern increased after elevated levels of methane gas were detected offsite. In the fall of 1984, explosive levels of methane gas were detected in the basements of several homes, resulting in the limited evacuation of two residences and a day care center. The level of community interest has remained high throughout the remedial investigation. In March 1987, U.S. EPA found levels of vinyl chloride and barium exceeding federal drinking water standards in approximately ten residential wells near the landfill. The agency determined that the cause of the contamination was the migration of hazardous substances from the Industrial Excess Landfill. The citizens have expressed concern that the extent of contamination is greater than what has been identified by the U.S. EPA. Although U.S. EPA's Focused Feasibility Study (FFS) specifically addresses contaminated and potentially affected

residential wells, the community feels strongly that it is only a matter of time before the contamination will migrate beyond the area identified by U.S. EPA, thus contaminating additional private wells.

III. SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND U.S. EPA RESPONSES TO THESE COMMENTS

This responsiveness summary addresses both oral and written comments received by U.S. EPA concerning the Focused Feasibility Study (FFS) for the Industrial Excess Landfill site. The comment period was held from August 12, 1987 to September 10, 1987. A public meeting was held at Uniontown Community Park Hall on August 25, 1987, as an opportunity for the public and other interested parties to present oral and written comments to U.S. EPA. These comments are recorded in a transcript of the meeting which is available at the Information Repository in Hartville, Ohio, and the U.S. EPA Region V office in Chicago. The written and oral comments are summarized and organized into the following categories: A) area included in the remedial action, B) remedial alternative preferences, C) costs and funding, D) health issues and, E) miscellaneous. U.S. EPA received a number of comments pertaining to the overall RI/FS during the public comment period. Since the purpose of this comment period was to receive comments specifically related to the FFS, comments related to the overall RI/FS will be addressed at a later time. Written comments from the PRPs are addressed separately. U.S. EPA responses are provided for each comment.

PUBLIC COMMENTS, EXCLUDING COMMENTS FROM THE PRPS

The following section summarizes written and oral comments received from the public, excluding comments received from the PRPs. The comments are organized into the following categories: A) area included in the remedial action, B) remedial alternative preferences, C) costs and funding, D) health issues, and E) miscellaneous. U.S. EPA responses are provided for each set of like comments.

A. Area Included in the Remedial Action

The majority of the comments received (including a citizen's petition containing approximately 1200 names) requested that U.S. EPA expand the area to be included in the preferred remedial action. Specifically, many commenters urged that alternate water be supplied to all homes within a three-mile radius of the IEL site.

U.S. EPA RESPONSE:

The purpose of Superfund is to remedy areas that have been adversely impacted by NPL sites. As explained in the FFS, U.S. EPA has determined that the groundwater of 10 homes west of IEL has been contaminated by the site. If unchecked, contamination will continue to migrate westward, affecting the groundwater of approximately 100 homes in a 15 year time period. U.S. EPA expects to implement a remedy for the IEL site before contaminants can migrate beyond this projected area. Section 104 of CERCLA limits U.S. EPA to providing alternate water only to those areas impacted by the site. Expanding the remedial area to include all homes within a 3-mile radius of the site can be implemented only if the State, or political subdivisions thereof, pay for all incremental costs.

B. Remedial Alternative Preferences

All commenters agreed with U.S. EPA's recommendation for an alternate water supply. However, the majority of the commenters suggested that water be obtained from the City of North Canton rather than the Village of Lakemore. These comments were divided into two categories:

1. Capacity of System

Comments regarding the capacity of the proposed water system fell into the following areas:

a. Capacity for expanded area

A number of comments were directly related to requests that U.S. EPA expand the area designated to receive the alternate supply. Commenters noted that the Village of Lakemore does not have the capacity to provide water to all homes within a three-mile radius of the site. Commenters suggested that U.S. EPA consider obtaining water from the City of North Canton, since it has to much larger capacity and would be able to provide water to additional homes.

U.S. EPA RESPONSE:

U.S. EPA acknowledges that the Village of Lakemore water system does not have the capacity to provide water to all homes within a 3-mile radius of the IEL site. However, U.S. EPA only has authority to provide water to areas impacted or potentially impacted by the site, in this case, approximately 100 homes west of IEL. The Village of Lakemore water system has the capacity to provide water to these homes.

b. Accomodate additional hook-ups and future growth

Several commenters noted that the currently designed system for obtaining water from the Village of Lakemore would not be able to provide water for homes wishing to tie into the system, or for future growth of the community.

U.S. EPA RESPONSE:

As stated in the "Guidance Document for Providing Alternate Water Supplies", U.S. EPA cannot design a system to accomodate hook-ups beyond the impacted area or future growth, because Superfund only corrects problems within an existing system or supply. Superfund cannot improve upon a system or supply, therefore, U.S. EPA does not provide specific consideration for future development.

c. Technical and cost issues

Both Congressman Regula and Representative Johnson noted that U.S. EPA utilized a larger water line in designing the preferred alternative than what currently exists. Representative Johnson also noted that the length of the proposed water line from

Lakemore, therefore construction costs would be lower for the North Canton alternative. Congressman Regula noted that since cost differences between the North Canton and Lakemore alternatives are minimal, U.S. EPA should select the North Canton alternative.

U.S. EPA RESPONSE:

U.S. EPA acknowledges that a twelve inch line at the intersection of Canton and Sanitorium roads does not yet exist. However, in contacting the Village of Lakemore, U.S. EPA representatives were advised that the planned twelve inch line would be constructed and available well within the time frame required for hook-up of the proposed alternate water supply.

With regard to cost issues, calculations presented in the FFS agree with the commenters' point that capitol costs would be lower for the North Canton alternative. However, information obtained from North Canton and the Village of Lakemore show that yearly operation and maintenance (O&M) costs would be substabtially lower for the Lakemore alternative. Lower O&M offset higher capital costs, therefore the total cost is lower. Even though cost differences ar minimal, U.S. EPA is required to select the less expensive alternative, given that effectiveness and implementability are equal.

2. Water Quality

Many commenters stated that obtaining water from North Canton was preferred because the water is treated for hardness. In addition, several people suggested that the water from both Lakemore and North Canton be tested for priority pollutants. One commenter noted that carbon tetachloride was reported in North Cantons' water.

U.S. EPA RESPONSE:

The purpose of Superfund is to replace or restore a lost resource, not improve upon it. The uncontaminated water in the Uniontown area is of similar quality to the water from Lakemore, including hardness levels. To select the more expensive North Canton alternative because it offers softer water is considered betterment and not allowed under the Superfund program.

With regard to testing the water of North Canton and Lakemore, the water of both these municipalities must meet Ohio drinking water standards. Rumors of carbon tetachloride present in North Canton water are unsubstantiated. However,

low levels of volatile organic compounds have been detected in several of North Cantons' wells. U.S. EPA plans to request, or perform, additional testing of both systems.

C. Cost and Funding Issues

A large number of commenters urged that U.S. EPA provide alternate water to the community free of charge. In addition, several citizens noted that the PRPs should be forced to fund the provision of water to the community.

U.S. EPA RESPONSE:

Before U.S. EPA can fund any of the subsequent activities at the site, Superfund legislation requires that the PRPs be given the opportunity to properly and promptly conduct the proposed remedial action. If the PRPs refuse to do so, U.S. EPA will fund 90% of construction costs and 90% of the first year of O&M. The State of Ohio must provide a 10% match for capital costs as well as the first year O&M. U.S. EPA and the State of Ohio are allowed to take legal action against the PRPs to try and recoup these costs. After the first year of operation, the State of Ohio will assume all future maintenance thru user fees assessed by the utility supplying potable water.

D. Health Isssues

Several commenters expressed considerable concern regarding the effect of the landfill on the health of surrounding residents. Specifically, citizens noted that there are a high number of cancer cases in the area, which they feel are due to the IEL site.

U.S. EPA RESPONSE:

It is very difficult to link specific health problems to any one source. Data obtained during U.S. EPA's remedial investigation at the site do not establish a link between the IEL site and citizen health complaints. A more detailed health study or exposure survey would have to be conducted by a health agency, such as the Ohio Department of Health or the Agency for Toxic Substances and Disease Registry (ATSDR). Citizens with specific concerns should have their physicians contact these agencies.

E. Miscellaneous

1. Additional Well Testing

A few commenters requested that U.S. EPA test their wells for priority pollutants.

U.S. EPA RESPONSE:

The Ohio Department of Health is currently developing a protocol to address individual requests for private well sampling. Interested citizens should contact that agency. U.S. EPA has completed its remedial investigation at the site, and does not plan to do any additional sampling at this time. We feel we have enough information to characterize the extent of contamination and evaluate alternatives for a site remedy. Additional sampling will be done if new information becomes available that would warrant it.

2. Boundary of Potentially Contaminated Area

Several citizens felt that the boundary for the potentially contaminated area was arbitrary. One citizen noted that this boundary line bisects her property, and wondered if only half of her yard was "safe".

U.S. EPA RESPONSE:

The boundary line depicted in the FFS circumscribes the area designated to receive the alternate water supply. Criteria used to determine the the potentially contaminated area are described in the FFS. In determining the area to receive the alternative water, U.S. EPA added an area representing a margin of safety to the potentially impacted area. U.S. EPA plans to implement a site remedy that will mitigate groundwater contamination before it reaches that marginal safety area. The boundary line is within that marginal safety area. Therefore, one side of the line is not necessarily "safer" than the other.

3. PRP Response

A few citizens expressd interest in how the PRPs responded to the FFS.

U.S. EPA RESPONSE:

In general, the PRP response to the FFS was negative. The PRPs felt that the study failed to prove that contaminants were migrating offsite, therefore, they did not recognize the need for an alternate water supply. They also felt that any decisions regarding the necessity of alternate water could not be made until the overall RI/FS was completed. PRP comments and U.S. EPA responses are stated in more detail in the PRP Comments of this document.

4. Inadequate Testing to Determine Groundwater Flow Direction

One commenter felt very strongly that the testing done to establish groundwater flow direction was inadequate and, therefore, the area including 100 homes does not accurately depict those who have been impacted by the site.

U.S. EPA RESPONSE:

Preliminary indications that groundwater flow was to the southwest were based on measurements from only 2 groundwater monitoring wells. Since that time, U.S. EPA has installed a total of 28 groundwater monitoring wells at shallow, medium and deep levels, and in all directions from the landfill. Six separate sets of measurements have been taken from these wells during the last year. Data from these measurements indicate that groundwater flow is due west, not southwest as was originally thought.

Based on information gathered from these monitoring wells, over 50 residential wells, 2 rounds of indoor air sampling, methane monitoring wells, and numerous surface soil, sediment, surface water and well core samples, U.S. EPA has determined that contaminants have migrated approximately 600 feet from the western edge of the landfill, impacting the groundwater of 10 homes.

COMMENTS FROM POTENTIALLY RESPONSIBLE PARTIES

The following section addresses written comments submitted by the Firestone Tire & Rubber Company, B.F. Goodrich Company, Goodyear Aerospace Corporation, and Goodyear Tire & Rubber Company. Comments were submitted on behalf of these parties by IT Corporation and Squire, Sanders and Dempsey. Comments were also submitted by Day, Ketterer, Daley, Wright and Rybolt on behalf of Hyman Budoff. These comments are addressed point by point beginning with the general comments submitted by Squire, Sanders and Dempsey, followed by comments submitted by IT Corporation. U.S. EPA judged comments submitted on behalf of Hyman Budoff to be identical to those submitted by the other PRPs; hence we did not address them separately.

COMMENT

U.S. EPA lacks the authority to perform the proposed remedial action, since it has not established that the action is necessary as a result of a release or threatened release of hazardous substances from the site.

U.S. EPA RESPONSE

Under Section 104 of CERCLA, U.S. EPA is authorized to provide for remedial action whenever any hazardous substance is released or there is a substantial threat of such a release into the environment. U.S. EPA has established that there is a release and threatened release of hazardous substances from the IEL site. Organic and inorganic compounds on the Hazardous Substance List (HSL) were found both in on-site groundwater monitoring wells and in 10 of 51 residential wells sampled. The 10 wells are located immediately to the west of the site. As stated in the FFS, U.S. EPA has determined the regional groundwater flow to be east to west and, therefore, concluded that contaminants were migrating from the IEL site.

In contending that contaminants detected in the residential drinking water wells of homes adjacent to the landfill are from some other source, the PRPs are ignoring the presence of the landfill which accepted hazardous wates, is located in permeable soils without an impermeable liner, and for which a considerable amount of data indicate that these substances are moving off-site in the ground water towards the adjacent homes. If household wastes are the source of the contamination, vinyl chloride should be randomly distributed throughout the residential wells sampled. This is not the case. The wells containing vinyl chloride are concentrated on the western (down ground-water gradient) border of the landfill.

The PRPs criticize U.S. EPA's use of data pertaining to Tentatively Identified Compounds (TICs), contending that such data cannot be used to justify remedial action. This criticism is based on a misinterpretation of the Agency's purpose in describing the movement of TICs. The Agency is using the TIC data to make a complete analysis of the migration of hazardous substances, pollutants and contaminants from the IEL site. The Agency collected this information during the RI and would be remiss if it did not present it and an interpretation of its meaning. Futhermore, the Agency is not relying solely on the TIC data to prove that remedial action is necessary. The TIC data is only one more piece of information that indicates actual and potential migration of hazardous substances from the landfill to residential drinking water.

In sum, we respectfully disagree with the PRPs and believe objective review of the existing data clearly indicates that a release of hazardous substances has occurred from IEL, and that the pathway of migration has led directly to the contamination of nearby receptors, specifically drinking water wells.

COMMENT

It does not make sense to separate the FFS and the proposed remedial action from the RI/FS and recommended alternative for the entire site.

U.S. EPA RESPONSE

The PRPs' criticism of the timing of the proposed operable unit presupposes that the Focused Feasibility Study and the comprehensive site Feasibility Study are entirely independent. In reality, the FFS is a portion of the overall RI/FS which was separated out as an operable unit in order to address threats to public health as quickly as possible.

Contrary to the PRPs contention, U.S. EPA has the legal authority to proceed with an operable unit before the release of the RI/FS. The National Contingency Plan establishes two basic conditions which must be met in order to proceed with the remedial action as an operable unit in advance of the selection of an overall remedy: 1) the measures to be undertaken must be cost effective; and 2) they must be consistent with a permanent remedy. In addition, before Fund-financed remedial action is initiated, states must agree to pay for a share of the costs, in accordance with Section 104(c)(3) of CERCLA.

U.S. EPA maintains that each of these conditions have been met. First, the operable unit is consistent with a permanent remedy. A permanent remedy at IEL will almost certainly involve some sort of groundwater treatment to reduce the

level of contamination. However, any such remedial action will take time to implement. It could be years before a significant reduction of contamination is achieved. In the meantime, migration of contaminants from the landfill will continue to threaten drinking water supplies in the vicinity. Providing alternative water supplies will protect public health until an overall cleanup can take effect. This is fully consistent with a permanent remedy.

Second, the proposed remedial action is cost effective. As described in the FFS, U.S. EPA evaluated numerous remedial alternatives. Once an alternative was determined to provide adequate protection of public health, U.S. EPA calculated the cost to implement it, compared relative costs, and chose the alternative which was least expensive. It must be emphasized, however, that the threshold consideration here was protection of public health. Of course, it can be argued that it would cheaper to provide water to fewer than the 100 residences EPA is proposing in its preferred remedy. The PRPs argue that contamination may never reach some of the residences that would be connected to an alternative water supply. U.S. EPA acknowledges that this may be the case.

U.S. EPA, however, used a logical approach for determining the area to receive alternative water. U.S. EPA calculated the rate of contaminant migration based on hydrogeological data collected to date. The Agency then used this rate to project how far from the site contaminants may migrate over a five-year period. Five years was used as the time which may be necessary to design and implement an aquifer restoration remedy. This potentially impacted area includes approximately 40 homes. Recognizing that groundwater flow prediction is not an exact science and that projections concerning the timing and effectiveness of remedial action are not always fulfilled, U.S. EPA used its discretion to supply water to an additional area (approximately 60 homes) that includes a margin of safety and does not separate blocks of homes. If any error is made in judging the progress of groundwater contamination, it is better to protect more homes than necessary rather than fewer. While the Agency has attempted to map as accurately as possible the likely spread of contamination before a permanent remedy halts further migration, it feels strongly that a safety margin must be included and that it is within the Agency's discretion to delimit such an area. In addition, the incremental cost for hooking up 60 additional homes is relatively minor, and U.S. EPA concluded it was worth the incremental cost to ensure full protection of public health.

Finally, U.S. EPA has kept the State of Ohio fully informed concerning the proposed operable unit and does not expect difficulties concerning the state financing requirements.

The PRPs have conducted a markedly different analysis of the legal authority for conducting the operable unit. In essence, the PRPs' argument is that neither cost effectiveness nor consistency with the final remedy can be assured until a final remedy is chosen. They conclude, therefore, that there is no legal basis for an operable unit until after the overall RI/FS report is released, the public has the opportunity to comment, and so on. This

conclusion, which logically applies to any operable unit in advance of a final remedy, is contradicted by the clear language of the NCP which explicitly provides for implementation of operable units before selection of a final remedy. See 40 C.F.R. § 300.68(c)(3). Nevertheless, having concluded that U.S. EPA's decision to proceed with an operable unit is illegal, the PRPs emphasize the imminence of a final RI/FS report, as if it were somehow worse to proceed with an operable unit when a final remedy selection is close than when it is far in the future.

The PRPs contention that this alternative water supply remedy should not be selected at this time because the overall RI/FS is projected to be released in November 1987, does not take into account that this date is a projection, not a hard and fast deadline. In fact, the U.S. EPA has historically exceeded projected RI/FS release dates, especially at sites, such as IEL, with complicated environmental and public health issues. Recognizing the uncertainty with projected schedules, and probability that the overall IEL RI/FS may not be released in accordance with the projected schedule, U.S. EPA contends it is prudent to go forward at this time with the selection of a remedy for the provision of safe drinking water.

Moreover, U.S. EPA notes that the NCP does not impose any condition on the timing of an operable unit relative to the selection of a final remedy. It simply requires the Agency to ensure that a pre-final remedy operable unit is consistent and cost effective. This the Agency has done.

COMMENT

U.S. EPA lacks legal authority to perform the Focused Feasibility Study and to take the proposed remedial action under Section 118 of the Superfund Act.

U.S. EPA RESPONSE

As discussed in the responses to the previous two comments, U.S. EPA's legal authority to perform the FFS and to take the proposed remedial action is based upon Section 104 of CERCLA and the National Contingency Plan. Besides meeting the legal requirements established in the NCP, the proposed operable unit is in accord with the mandate of Section 118 of CERCLA which requires the Agency, for purposes of taking action under Section 104, to give a high priority to facilities where the release of hazardous substances, pollutants, or contaminants has contaminated a principal drinking water supply. The PRPs object that Section 118 gives priority to "facilities" and does not call for implementation of remedial action by operable units. In response, U.S. EPA maintains that part of "giving priority to facilities for purposes of taking action under Section 104" is to proceed expeditiously to address public health problems when a drinking water source has been contaminated, as is the case at IEL. An operable unit is a vehicle provided by the NCP to enable the Agency to speed up certain kinds of remedial action. Its use in this case to provide an alternative water

supply is entirely consistent with the thrust of Section 118.

The PRPs object further that contamination of a few private wells is not contamination of a principal drinking water supply. They cite no statutory or administrative authority for this conclusion. The legislative history of Section 118 makes it clear, however, that, for purposes of this section, Congress intended the Agency to have broad discretion over what constitutes a principal drinking water supply. The original version of Section 118 tied the definition of a principal drinking water supply to the Safe Drinking Water Act. The Conference substitute eliminated this connection. The Conference Report explains this modification as an assurance "that the EPA administrator not be constrained in implementing this provision to existing interpretations of 'sole or principal drinking water sources' under the Safe Drinking Water Act." H.R. Rep. No. 99-962, 99th Cong., 2d Sess. 232. For purposes of implementing Section 118, U.S. EPA views residential wells in the vicinity of IEL, wells which constitute the sole source of water for area residents, as a principal drinking water source.

The PRPs attempt to bolster their argument by sugggesting that the air strippers the Agency has installed eliminate the need to go forward with the operable unit in advance of selection of an overall remedy. While the air strippers effectively deal with vinyl chloride contamination, they will not remove other hazardous substances, such as heavy metals and semi-volatile organics, which threaten to migrate from the IEL site. Under Section 104 of CERCLA, U.S. EPA is authorized to undertake remedial action not only when there is an actual release, but when there is a substantial threat of a release of hazardous substances into the environment. Given the threat of a release of a whole host of hazardous substances, pollutants and contaminants which the FFS has documented are present at IEL, the Agency determined to go forward with a permanent alternative water supply, rather than continuing to proceed on a piecemeal basis with air strippers, whose long-term ability to protect public health cannot be guaranteed.

In sum, U.S. EPA's legal authority to proceed is not dependent upon Section 118. Section 118 of CERCLA simply reinforces the Agency's view that Congress was keenly concerned with threats to public drinking water and wanted the Agency to respond to such threats as expeditiously as possible. U.S. EPA maintains that the proposed operable unit is fully in keeping with the intent of Congress.

COMMENT

The Agency cannot properly support its proposed remedial action with a Risk Assessment that is incomplete and which has not been made available to the public.

U.S. EPA RESPONSE

The Risk Assessment is incomplete only in the sense that it does not examine all sources, pathways and receptors of potential contamination (e.g., direct contact with leachate, ingestion of site soils, etc.) However, the Risk Assessment

did evaluate the major exposure pathways via groundwater, such as inhalation and ingestion, and it was established that a threat to public health did exist through this pathway. Furthermore, Federal drinking water standards (MCLS) were exceeded for vinyl chloride and barium. U.S. EPA's remedial program uses MCLs to determine need for action. Since the publication of the FFS, recent data revealed that levels of nickel exceeded Ambient Water Quality Standards (AWQS). While AWQS do not establish requirements, they provide guidance on pollutant levels that pose threats to human health.

COMMENT

U.S. EPA has improperly rejected certain Remedial Alternatives and failed to consider others.

U.S. EPA RESPONSE

U.S. EPA maintains that it evaluated remedial alternatives appropriately. The relative cost of remedial alternatives does not become a criterion for choosing between remedies until remedial alternatives are screened for their ability to protect public health. With respect to the alternative of drilling deeper wells, U.S. EPA concluded that there is a possibility that contaminants could reach deep aquifers because the shallow and deep aquifers are continuous and linked to one another. In contrast, there is virtually no possibility of contamination of water piped from a municipal water supply. Hence, U.S. EPA rejected the alternative of drilling deeper wells because this alternative was not fully protective of public health. U.S. EPA did not reach the stage of evaluating its relative cost.

U.S. EPA gave due consideration to comments from the PRPs and the public concerning the water systems U.S. EPA evaluated and other public water systems. U.S. EPA has decided to go forward with a Record of Decision to design and construct an alternative public water supply system, leaving open the choice of which water source to use from among the three alternatives considered in the detailed evaluation of the FFS and the Summit County source suggested by the PRPs. Since U.S. EPA is not choosing a specific source at this time, a response to the PRPs' comments regarding the four specific sources mentioned above is premature. U.S. EPA will respond to these comments at the time it selects a source.

COMMENT

U.S. EPA has improperly failed to calculate and consider the administrative costs associated with constructing and implementing an alternative water supply.

U.S. EPA RESPONSE

The administritative costs associated with individual options were considered on a qualitative basis within the FFS report. This approach is in line with U.S. EPA published guidance which requires the feasibility study to provide overall capital and operation and maintenance cost estimates which are within a range of -30% to +50%. The provisions of specific administrative costs are not stipulated, and in any case will probably not be covered under the provisions of Superfund. We believe that the actual magnitude of administrative costs will be small in comparison with the magnitude of the capital and O&M costs for those options undergoing detailed analysis. The types of detailed considerations the PRPs refer to will be considered as a part of the next phase of the remediation process, the remedial design.

U.S. EPA gave due consideration to comments from the PRPs and the public concerning the water systems U.S. EPA evaluated and other public water systems. U.S. EPA has decided to go forward with a Record of Decision to design and construct an alternative public water supply system, leaving open the choice of which water source to use from among the three alternatives considered in the detailed evaluation of the FFS and the Summit County source suggested by the PRPs. Since U.S. EPA is not choosing a specific source at this time, a discussion of relative administrative costs is premature. U.S. EPA will respond to this comment at the time it selects a source.

At this point, U.S. EPA will respond to the specific comments from IT Corporation.

COMMENT:

The Focused Feasibility Study (FFS) was prematurely issued and consequently is based on an incomplete data base. It is our understanding these data will be available for the U.S. EPA and their contractors to utilize in preparing the FFS.

- o Analytical results of the following Phase II Remedial Investigation (RI) sampling efforts:
  - Site groundwater monitoring wells
  - Approximately 16 area residential wells (These data are critical! These results of analysis are necessary to confirm the presence of certain contaminants which were found in low concentrations, oftentimes at or near detection limits)
  - Soil gas/vapor analyses
- o Finalized site risk assessment report
- o A complete quality assurance/quality control report of all

analytical data generated during the RI. This project has been historically plagued with laboratory QA/QC problems, according to raw data provided to us by the U.S. EPA.

Indications to date from the U.S. EPA have been these data will be available as part of the project RI/FS report. As a result, no action towards evaluating the necessity of an alternative water supply should have been taken until all the data is available and has been reviewed; i.e., the RI/FS report has been issued.

U.S. EPA RESPONSE

Although the overall RI/FS for the site is not complete, U.S. EPA has collected sufficient data on the hydrogeologic characteristics, contaminent occurence, and site leachate and waste characteristics to support the FFS. Analytical results for site groundwater monitoring wells (as opposed to residential wells) were available and in the FFS. In addition, site leachate and waste analytical results were also available and used in the FFS. Soil/gas vapor analyses were not used, but are not necessary to make the conclusions reached by U.S. EPA in the FFS, especially in light of the large amount of other data mentioned above which fully supports the U.S. EPA conclusions.

The confirmatory data for the residential wells was not available at the time the FFS was released for public comment. These results have since become available and indeed support the conclusions in the FFS. These data were put into the Administrative Record, delivered to the PRPs on September 24, 1987, and are available for review in the Regional Office in Chicago upon request.

The full site risk assessment, like the overall RI/FS, is not yet available. However, the risk assessment for the particular release and threat of release, which is the subject of the FFS, is complete and clearly indicates that an unacceptable risk to public health exists from this actual and threatened release.

Each separate data package for all the data used in the FFS has been through a rigorous quality assurance/quality control (QA/QC) process. The QA/QC documentation for all the data (which is comprised of numerous documents) is not normally sent with raw data, although any QA/QC problems are noted on the raw data sheets. The QA/QC documents for all raw data used in the FFS are a part of U.S. EPA's administrative record. The PRPs were informed in U.S. EPA's special notice letter dated August 13, 1987 that the administrative record was available for review in the Regional Office, upon request. To date, a request from the PRPs to review the administrative record has not been received by U.S. EPA.

COMMENT

The lack of pertinent data, as detailed in Comment No. 1 above, makes it difficult, if not impractical, for interested parties to properly review and

comment upon the FFS. Similarly, the U.S. EPA cannot be in a position to fully and adequately respond to comments until the RI report is issued.

U.S. EPA RESPONSE

The apparent lack of the PRPs' initiative to review the large amount of data available in the administrative record, not the absence of such data, has made the PRPs' review and comment on the FFS difficult. The administrative record has been and continues to be available for review by the PRPs upon request. U.S. EPA has reviewed the available data and is confident that this Responsiveness Summary fully addresses the contentions made by the PRPs.

COMMENT

U.S. EPA claims that Section 118 of CERCLA provides authority for issuance of a FFS and separate remedial activity when the release of hazardous substances has resulted in the contamination of a principal drinking water supply. However, to date the U.S. EPA has failed to conclusively demonstrate that the landfill is the source of those contaminants found in the residential wells west of the site.

- Vinyl chloride has, according to the U.S. EPA, been detected in low concentrations in groundwater samples from the residential wells west of the site. Vinyl chloride has not been detected in any groundwater samples obtained from on-site monitoring wells.

- The FFS contends that vinyl chloride is found in off-site residential wells due to the degradation of unsaturated chlorinated ethenes which are found on site. However, such compounds are found only rarely (very few locations at low concentrations) in site groundwater samples. If such compounds do constitute an on-site source of the vinyl chloride detected in the residential wells, they should be present in much greater concentrations. Dilution and dispersion (as well as degradation) of the compounds could possibly account for the amounts of vinyl chloride seen in groundwater off site only if greater concentrations of the precursor these compounds were present over a greater area of the site.

  Additionally, the degradation product or products should be present in combination with the parent product or products, as the parent product would gradually degrade into corresponding degradation products. The transformation would be gradual. The fact that vinyl chloride was not detected in site groundwater samples indicates such transformations are not taking place in site groundwater and, thus, the site is not the source of the trace amounts of vinyl chloride found in three off-site

wells.

° Although vinyl chloride was detected on site in soil and drum samples, the fact that vinyl chloride was not detected in site ground water samples reveals that no route of migration can be established for vinyl chloride to be leaving the site and entering area residential wells. Thus, the agency has failed to establish a source-pathway-receptor relationship between the site and the affected wells.

Along these lines, the FFS states that chloroethane was detected in a site leachate sample and is therefore present in a liquid media where it may degrade into vinyl chloride. According to the data provided by the U.S. EPA, three leachate samples were collected as part of the Phase I RI effort and chloroethane was not detected in any of these samples.

° The FFS names several Tentatively Identified Compounds (TICs) which the U.S. EPA claims were found on site and in off-site wells. The data provided by the U.S. EPA were evaluated for TICs and the resultant Table I (attached) was prepared, which compares all TICs detected in residential

wells against those detected in site monitoring wells. Residential well analyses were conducted by U.S. EPA's contract laboratory; monitoring well analyses were conducted on sample splits obtained from U.S. EPA's site RI contractor and analyzed according to Contract Laboratory Program (CLP) protocol by an independent CLP-certified laboratory.

The table shows that only six TICs were found in both on-site and off-site groundwater samples. The table generally shows that TIC values are either estimated at low concentrations, found in equal or greater concentrations in field or laboratory blanks (all of which are related to the sampling of residential wells), or are found in concentrations in residential wells which are at or near those found in site monitoring wells. Due to dilution and dispersion, larger amounts on site than off site would be expected if the site was the source of those TICs detected in residential wells. Consequently, the data do not tend to confirm U.S. EPA's contention that the TIC's offer proof of off-site migration of contamination.

U.S. EPA RESPONSE

U.S. EPA disagrees with the PRPs' contention that the Agency has not demonstrated that the landfill is the source of contaminants in residential wells west of the site. U.S. EPA has provided a great deal of evidence and data regarding this matter and believes the data indicate that the source of the residential well contamination is the landfill.

The PRPs' contention that because vinyl chloride has not been detected in on-site groundwater monitoring wells, the vinyl chloride in residential wells cannot be attributed to the site, ignores the individual transport characteristics

of various compounds. Vinyl chloride is a very mobile compound and moves rapidly through permeable media such as the soil at and around the site. Vinyl chloride's parent compounds (chloroethenes) have been found in soil, waste, and on-site groundwater samples. U.S. EPA contends that vinyl chloride has migrated off-site quickly, comprising an actual release from the site, while its parent compounds pose a threatened release from the site because they are migrating at a slower rate.

U.S. EPA has found the parent compounds (chloroethenes) of vinyl chloride in higher concentrations onsite than the concentrations of vinyl chloride found off-site. Taking into account dilution and dispersion, these parent compounds are a probable source of vinyl chloride. The PRPs' argument that we should see greater concentrations of the parent compound across a broad area of the site presumes that U.S. EPA has conducted waste characterization over a broad area of the site and has not consistently detected chloroethenes. The fact of the matter is that U.S. EPA has not done a site-wide waste characterization because of the danger of drilling through waste containing explosive levels of methane. Drums were uncovered during excavation for the methane extraction system, and sampling of drum contents and residues showed the presence of chloroethenes. In addition, chloroethenes have been found in the surface soil, soil cores from site monitoring wells, and in the site groundwater. Although vinyl chloride has not been found in site monitoring wells, this phenomenon is due to the rapid transport of vinyl chloride from the site.

The PRPs contend that vinyl chloride has been detected in on-site soil and drum samples. U.S. EPA's data shows that chloroethenes were found, but did not detect vinyl chloride. If the PRPs have data which shows that vinyl chloride was present in on-site soil and drum samples this data should be provided to U.S. EPA immediately. U.S. EPA contends that vinyl chloride is migrating more rapidly than its parent compunds and therefore is not being detected in site monitoring wells.

The PRPs have mistakenly interpreted the FFS in regard to chloroethane. Chloroethane, as stated in the FFS, was detected in leachate samples. The FFS does not contend that the presence of chloroethanes in liquid media lead to vinyl chloride in off-site groundwater.

The PRPs' TIC list is not in agreement with U.S. EPA data, which indicate excellent correspondence between landfill monitoring well TICs and TICs found in residential wells bordering the landfill (Attachment B). The concentrations of on-site TICs were, in most cases, greater than those found off-site. U.S. EPA's data indicates that TICs are an indicator of contaminant migration. Furthermore, the PRPs did not collect the split samples in accordance with an approved Sampling Plan or QAPP, and therefore, the resulting data's quality cannot be determined. U.S. EPA's data, however, have undergone rigorous QA/QC and are of a known quality.

COMMENT

The fact that vinyl chloride was not found in Monitoring Well MW-11M but was detected in two adjacent residential wells (RW05 and RW38) suggests in-well or near-well contamination (particularly at the low levels which were detected) rather than regional contamination of vinyl chloride. U.S. EPA should fully evaluate other potential sources of the detected vinyl chloride, such as the presence of PVC or other plastics in the pump, piping or water distribution systems of each affected residential well, or the relationship of the well location to septic tank drain fields, floor drains, or other potential sources. The theory posed by U.S. EPA that vinyl chloride was detected in the two residential wells and not in the nearby monitoring well due to pumpage of the residential wells is purely speculative. Not enough data exists to evaluate the potential for a preferential flow to the residential wells. Published accounts have recently indicated that one of the residential wells (RW05) has not been utilized for quite some time. The entire issue warrants further investigation.

U.S. EPA RESPONSE

The PRPs' concern that the vinyl chloride contamination may be caused by a source other than the landfill, such as pumping or piping in the water distribution system or septic tank drain fields or floor drains, is not likely. The residential wells are steel, not PVC. In addition, one would expect to find a more random distribution of contaminants detected in residential wells if septic tanks were the source. However, these contaminants are found directly adjacent to and down ground-water gradient from the landfill. U.S. EPA believes that strong source-pathway-receptor evidence indicates that the landfill is responsible for the contamination in the residential wells immediately downgradient from the site. The fact that the residential wells are in constant use (as opposed to monitoring wells which are pumped only periodically) is a plausible reason for the anomalous reading in U.S. EPA's monitoring well MW-11M.

COMMENT

The health effects of TICs are not discussed in the FFS. Their additive or mixitive effects are speculated-upon but cannot be quantified. TICs cannot be considered hazardous substances due to the lack of toxicological data on the vast majority of them. Moreover, TICs are not on the list incorporated in the FFS since CERCLA limits U.S. EPA's response to conditions where releases of hazardous substances have impacted drinking water supplies.

U.S. EPA RESPONSE

In regard to health effects, U.S. EPA agrees that toxicological data for many TICs do not exist. However, some toxicological data are available for a

number of TICs, as was demonstrated in Table B-9 of the FFS. Even if TICs are not considered hazardous substances, their presence, both on and off-site, in conjunction with HSL compounds, is indicative of off-site contaminant migration.

In establishing the IEL site as the source of contaminant migration, and in determining the extent of contamination, U.S. EPA did not focus on the data for a specific compound, such as vinyl chloride. Rather, an overall approach was taken. U.S. EPA examined the relationship between compounds found in 51 residential wells and compounds found on the IEL site. HSL organic and inorganic compounds related to the site were found in 10 wells immediately to the west and down groundwater gradient of the site. TICs that are associated with solvents, reagents or chemical feedstocks of the sort that were dumped at the site were found in on-site monitoring wells.

The groundwater of ten homes immediately west of the IEL site contained the same industrial-related TICs that were found on-site. The groundwater flow has been established to be east to west. U.S. EPA concluded that the HSL compounds and TICs were migrating from the IEL site. U.S. EPA did not rely on TIC data to conclude that an alternative water supply was necessary to protect public health. U.S. EPA did, however, present the TIC data collected as further evidence of contaminant migration from the IEL site.

COMMENT

The FFS approach to calculating the area of future potentially contaminated groundwater via Scenario 1 and 2 (and thus used in determining the area which will require corrective actions) appears to assume that even short-term exposure to low-level contaminants is sufficient to warrant implementation of alternative water supplies. Realistically, the FFS should have focused on those homes (if any) where long-term exposure to known contaminants is known to have occurred and might reasonably be expected to continue until site remediation is completed.

U.S. EPA RESPONSE

The PRPs have apparently mistaken the risk assessment process, which examines the risk posed in a no action scenario, and the procedures used by U.S. EPA to determine the area to receive the alternative water supply. In accordance with standard procedures, which prescribe assessment of risk when no remedial or cleanup action is taken, U.S. EPA examined the risk posed by the consumption of drinking contaminated with vinyl chloride, barium, and other contaminants migrating from the IEL site. In this particular case, where health based standards were exceeded, the risk assessment was straight forward. Once the presence of an unacceptable risk was established, U.S. EPA then examined the area which should receive an alternative water supply, based on the actual and potential threat and taking into account future actions at the site.

COMMENT

The vinyl chloride level of 2 ppb detected in Residential Well RW39 was at (not exceeding) the MCL. Therefore, it should not have been evaluated further in the FFS.

U.S. EPA RESPONSE

The PRPs' assertion regarding the use of vinyl chloride levels in Residential Well RW39 is tenuous, since the 2 ppb vinyl chloride level in question is a potential threat considering, under a no action scenario, that level is likely to increase. More importantly, there are other residential wells with vinyl chloride in excess of the MCL, which made the risk posed by the site unacceptable, whether or not vinyl chloride data from Residential Well RW39 was used in the FFS.

COMMENT

The FFS contention that vinyl chloride levels decrease with increasing distance away from the western edge of the landfill is misleading. The FFS, utilizing Wells Nos. RW-5, RW39, and another unspecified well to the west demonstrates that vinyl chloride levels decrease from 7 ppb to none detected within 500 to 600 feet of the landfill. While it is true that RW05 was found to contain 7 ppb of vinyl chloride, another equidistant Residential Well (RW38) contained only 2 ppb vinyl chloride (not significantly different from that found in RW39 to the west), while a monitoring well placed midway between residential wells RW39 and RW38 contained no detectable vinyl chloride. The data could potentially (and just as validly) be interpreted to say that vinyl chloride levels decrease with increasing distance away from RW05 in all directions, including to the east toward the landfill, as no vinyl chloride was detected in groundwater samples obtained on site.

U.S. EPA RESPONSE

U.S. EPA believes clear source-pathway-receptor evidence exists to establish that contaminants, such as vinyl chloride, barium, chloroethane, and TICs are migrating via groundwater from the landfill to residential drinking water wells. The PRPs' explanation ignores one basic fact, the presence of the IEL landfill, which was constructed in permeable soils without an impermeable liner, which accepted for disposal hazardous substances, including liquid industrial solvent

wastes, and which is located immediately adjacent to and up groundwater gradient from contaminated residential drinking water wells.

COMMENT

Chloroethane is discussed as a site contaminant with potential off-site effects, yet no water quality standards or similar health effects standards (MCL, MCLG, AWQC, etc.) exist for chloroethane. Additionally, Table 2.1 of the FFS utilizes chloroethane data for three residential wells where chloroethane in one instance (RW38) was not detected (less than 1.5 ppb) while at a nearby well (RW39) an apparently different detection limit was used and a value of 1 ppb was reported.

U.S. EPA RESPONSE

U.S. EPA used the chloroethane data, not as an indicator of risk, but as an indicator of contaminant migration from the IEL site. The data collected both on- and-off site indicate that chloroethane is migrating from the IEL site to residential drinking water wells.

COMMENT

Barium levels exceed the MCL but not proposed MCLG. MCLs are typically enforceable standards which are considered achievable via present-day technology, while MCLGs are goals which the agency cannot enforce but tends to encourage. Normally, MCLGs are lower than the corresponding MCL. However, for barium, the MCL is 1,000 ppb while the MCLG is 1,500 ppb. This tends to indicate that the U.S. EPA is proposing to relax the current water quality standards for barium. When first proposed (50 FR 46936, November 13, 1985, Page 46964), the agency stated the recommended MCLG of 1,500 ppb "contains a several-fold safety factor and should be sufficiently protective against adverse effects." The U.S. EPA cannot justify enforcing the barium MCL in this instance when the MCLG set by the agency exceeds it by 1.5 times. Additionally, it appears quite likely that barium is a regional component of area groundwater resources, much in the same way as is arsenic, perhaps due to geologic sources.

U.S. EPA RESPONSE

In accordance with U.S. EPA's established risk assessment process, current enforceable health-based standards, such as MCLs, are utilized as target levels to be attained when they exist for the compounds of concern. In the absence of

such standards, a full-blown risk assessment is conducted for the compounds. The current MCL for barium is 1000 ppb and was correctly used as the target level. As stated in the FFS, levels of barium in two residential wells violate this standard, and one is at the standard. Levels of barium found in on-site groundwater samples are greater than the elevated levels found in residential wells near the site. These homes are located west of the site. As the groundwater flow is east to west, indications are that barium is moving with the groundwater off-site.

COMMENT

It appears that the Risk Assessment of the FFS has misapplied the concept of the Hazard Index for the various contaminants. If the Hazard Index for an individual compounds is less than one, it is of no consequence and the global hazard index should not reflex its presence. Hazard Indices are not meant to be additive for a subgroup, thus artificially creating an index which exceeds a value of one. The Hazard Index should be calculated on an individual compound basis.

U.S. EPA RESPONSE

The PRPs' comment is incorrect. The Superfund Public Health Evaluation Manual (EPA 540/1-86/060, October 1986) states on page 98:

> "This approach [the Hazard Index] assumes that multiple sub-threshold exposures could result in an adverse effect and that the magnitude of the adverse effect will be proportional to the sum of the ratios of the sub-threshold exposures to acceptable exposures [i.e., an additive effect]. If the hazard index results in a value greater than unity, segregate the compounds in the mixture by critical effect and derive separate hazard indices for each effect.

This approach derives from EPA's guidelines on the assessment chemical mixtures (51 FR 34014-34025).

COMMENT

Exposure assessment documentation presented in the FFS is incomplete. Details on how such things as exposure to volatiles via inhalation while showering are not presented (e.g., duration and frequency of showering) and cannot be properly reviewed and evaluated at this time. We would urge the U.S. EPA to make the

project risk assessment report available in its entirety for public review and comment before going forward with the Record of Decision and implementation of alternative water supplies.

U.S. EPA RESPONSE

The Risk Assessment is incomplete only in the sense that it does not examine all sources, pathways and receptors of potential contamination (e.g., direct contact leachate, ingestion of site soils, etc.). However, the Risk Assessment did evaluate the major exposure pathways via groundwater, such as inhalation and ingestion, and it was established that a threat to public health did exist through this pathway. In addition, federal drinking water standards (MCLs) were exceeded for vinyl chloride and barium. U.S. EPA's remedial program uses MCLs to determine need for action. Since the publication of the FFS, recent data revealed that levels of nickel exceeded Ambient Water Quality Standards (AWQS). While AWQS do not establish requirements, they provide guidance on pollutant levels that pose threats to human health.

COMMENT

The FFS exposure assessment for the short-term exposure scenario appears to need to be reevaluated. The FFS data indicate that a two-year exposure is more severe than the lifetime exposure scenario to the same drinking water. This is completely opposite of most exposure assessments, as long-term exposure would be expected to have certain cumulative effects.

U.S. EPA RESPONSE

The exposure assessment examined the short- and long-term exposure scenarios for both carcinogens and non-carcinogens. For carcinogens, the long-term exposure scenario was worse than the short-term exposure scenario. For non-carcinogens, the short- and long-term exposure scenarios for adults are equal because exposures are averaged over the specified time period. For non-carcinogens in children, the short-term exposure is most harmful because of the sensitivity of the population, while long-term exposures are usually not applied to children.

COMMENT

The FFS does not provide the groundwater contour maps utilized by the Agency in evaluating groundwater flow direction from the site.

U.S. EPA RESPONSE

U.S. EPA provided the groundwater elevation data (Appendix D of FFS) from which our conclusion that groundwater is moving from east to west was reached. U.S. EPA contends that such data should be more than sufficient for the PRPs to evaluate U.S. EPA's conclusion regarding groundwater flow direction.

COMMENT

After our conversations with the Ohio Environmental Protection Agency (OEPA), we suggest that obtaining water from Lakemore may not be the best alternative. OEPA noted that Lakemore has had both supply and quality problems in the past. Water would contain both iron and manganese. Operationally, the line from Lakemore to the affected area poses a problem, since it passes through unincorporated Summit County and then unincorporated Stark County. If not owned and operated entirely by Lakemore, problems with obtaining agreements with either or both of the counties for ownership and operation of the lines may be difficult to obtain.

U.S. EPA RESPONSE

U.S. EPA gave due consideration to comments from the PRPs and the public concerning the water systems U.S. EPA evaluated and other public water systems. U.S. EPA has decided to go forward with a Record of Decision to design and construct an alternative public water supply system, leaving open the choice of which water source to use from among the three alternatives considered in the detailed evaluation of the FFS and the Summit County source suggested by the PRPs. Since U.S. EPA is not choosing a specific source at this time, responding to the PRPs comments regarding the four specific sources mentioned above is premature. U.S. EPA will respond to comments regarding the four potential sources of water at the time it selects a source.

COMMENT

The FFS states Residential Wells RW05, RW39, and RW41 are located "west and, hence, down groundwater gradient from IEL." Well No. RW41 is located northwest of IEL and thus would be north of any emanating from the landfill.

U.S. EPA RESPONSE

Although Well No. RW41 is located just north (and west) of the landfill, it is also close enough to being due west that a contaminant plume could arguably spread northward as it travels west, therefore reaching RW41.

COMMENT

While it is true that barium levels in samples from residential wells RW08 and RW09 exceed the MCL of 1,000 ppb, their barium concentrations also exceed the barium concentrations found in monitoring wells on the landfill. If the landfill were the source of elevated barium levels observed in RW08 and RW09, somewhat greater concentrations would be expected in the on-site wells (at the supposed source) than at off-site locations where the contaminant would be somewhat dispersed and diluted.

U.S. EPA RESPONSE

U.S. EPA disagrees with the PRPs and contends that the data shows that levels of barium found in on-site groundwater samples are greater than the elevated levels found in residential wells near the site.

COMMENT

Tables 2-4, 2-5, and 2-6 provide a range and geometric mean for various detected contaminants, although in many instances the contaminant was only dectected once in a number of well samples. In some instances, the mean is greater than the highest value presented in the range. It is not possible to gave a range of values based on only one observation.

U.S. EPA RESPONSE

The following provides a brief description of the nature of analytical data received following a field sampling event and how the approach was derived. The data reports receipt from analytical laboratories typically include a listing of the compounds for which analyses were run and the observed concentrations of chemical components which were detected in environmental samples. The compounds which were not detected during the analysis are cited accordingly. The finding that a constituent is not detected does not mean that the constituent is not present in the sample, but rather that the compound is not present at levels equal to or greater than the detection limit. Thus, an "undetected" compound could be present in the environmental sample at any concentration from 0% to 99% of the detection limit.

In light of this situation, it was felt that some consideration should be given to the possibility that there may be contaminants present in samples where laboratory analytical results indicated that no contaminant had been detected. The decision on how this should be handled needed to balance the protection of

public health with the uncertainty associated with the nature of the analytical data, and the desire not to derive results which were unrealistically stringent. As a result the decision was made to consider "undetected" compounds as being present at concentrations equal to 50% of the detection limit.

While the above paragraph provides a general picture of the manner in which we viewed data, this approach was actually used within the risk assessment in certain situations. If a constituent was detected at a frequency of one in samples from a particular media, the geometric mean was calculated based on the detected value and a value equal to 1/2 of the lowest observed detection limit for that constituent. If a constituent was not detected at all, then a geometric mean for that constituent was not reported. In some rare instances, a laboratory may have been able to provide an estimated value for the constituent which was below the detection limit. In this situation, the geometric mean was also not reported. The notes at the end of the tables referenced in the comment and the text found within the document provide an explanation of the manner in which these calculations were performed. The tables do not contain geometric mean values greater than the maximum values in the range column for any constituent.

COMMENT

A closer public water supply, the Summit County-Country Club Village supply, is located at Raber and Mayfair Road in Green Township, Summit County. The system has adequate capacity to serve the affected area and has a 400,000 gallon elevated stroage tank. Gravity serivce without additonal pumping may be possible. OEPA noted that iron and manganese contents are lower than that of Lakemore. A spokesperson for the county noted that the county would be willing to operate and maintain the entire system as well, even that portion of the system in Stark County. A well field expansion is also planned. If a rural easement is available, 9,500 feet of 12-inch pipe would be required. If road right-of-way is used, 16,500 feet of pipe would be required. It appears a cost savings could be incurred by one of these alternatives. The FFS, before being finalized, should fully investigate the proximity, capacity, and water quality of Summit County system.

U.S. EPA RESPONSE

U.S. EPA conducted a brief analysis of the Summit County alternative suggested by the PRPs (see Attachment C), and determined that the Summit County public water supply may be a viable source of water. U.S. EPA gave due consideration to comments from the PRPs and the public concerning the water systems U.S. EPA evaluated and other public water systems. U.S. EPA has decided to go forward with a Record of Decision to design and construct an alternative public water supply system, leaving open the choice of which water source to use from among the three alternatives considered in the detailed evaluation of the FFS and the Summit County source suggested by the PRPs. Since U.S. EPA is not choosing a specific source at this time, a full response to the PRPS comments regarding the

four specific sources mentioned above is premature. U.S. EPA will respond to comments regarding the four potential sources of water at the time it selects a source.

COMMENT

The FFS rapidly dismisses the alternative of drilling new, deeper wells to replace the three to ten affected residential wells. Three reasons are given: (a) a fear of contaminants migrating over time to deeper wells (this discounts the effects of attenuation and dispersion of contaminants, but more importantly, it does not consider the beneficial effects of site remediation); (b) the need for frequent monitoring (a comparatively minor issue; the frequency of monitoring is debatable (as is the analytical effort) at and needs to be defined before this option is dismissed); and (c) fear that plugging of existing wells and construction of new deeper wells may contaminant deeper aquifers. (This concern is unfounded, as this type of well installation is routinely done; also, this concern again discounts the impact of site remediation). This alternative action warrants further consideration. This option has the lowest costs associated with it in comparison to the other evaluated alternatives and thus, depending on the scope of the project as finally determined, may be the most cost-effective alternative.

U.S. EPA RESPONSE

The PRPs appear to be emphasizing cost. Alternatives are first evaluated on their effectiveness and implementability, and finally on cost. As the FFS states, the alternative which involves deepening existing residential wells in the contaminated area was rejected because, with regard to public health, it is not as effective as the recommended alternative. The most important factor considered is that the shallow aquifer (sand and gravel) is continuous with the deeper aquifer (bedrock), as there is no impermeable barrier separating the two aquifers, so that downward migration of contaminants is not prevented.

COMMENT

Construction of a new community well supply is also a viable alternative. Two or three wells located upgradient of Industrial Excess Landfill would probably be adequate to supply the 100 homes. Pressure (hydropneumatic) tanks or ground storage with booster pumps could be utilized. It is likely that iron removal treatment would be required by OEPA, but the water should not be any harder than currently being used. Costs should not be as high as indicated in the FFS estimate for this alternative. One of the problems of a water system such as this is ownership and continued operation and maintenance of the system once

constructed. In Ohio, the common forms of ownership are by a homeowners' association, a public utility company, or a public entity. In this case, the public entity could be the Stark County Engineers or Lake Township. It is not likely that Lake Township would have the wherewithal to operate the system, although it is a possibility. Stark County does not operate any other water systems at this time to our knowledge, although they do operate many wastewater systems.

U.S. EPA RESPONSE

U.S. EPA gave due consideration to comments from the PRPs and the public concerning the water systems U.S. EPA evaluated and other public water systems. U.S. EPA has decided to go forward with a Record of Decision to design and construct an alternative public water supply system, leaving open the choice of which water source to use from among the three alternatives considered in the detailed evaluation of the FFS and Summit County source suggested by the PRPs. Since U.S. EPA is not choosing a specific source at this time, responding to the PRPs comments regarding the four specific sources mentioned above is premature. U.S. EPA will respond to comments regarding the four potential sources of water at the time it selects a source.

COMMENT

The Lakemore, Country Club Village, and North Canton water supplies have all been analyzed for 38 volatile organic chemicals (VOC) by OEPA. The Lakemore and Country Club water supplies were free of the VOCs. North Canton found small amounts of several VOC compounds in two wells. This is presently being investigated by OEPA and the city.

U.S. EPA RESPONSE

U.S. EPA has received and appreciates the provision of this water quality data.

IV. REMAINING CONCERNS

Almost all of the comments received requested that U.S. EPA expand the area designated to receive the alternate water supply. In conjunction with expansion requests, many commenters preferred that North Canton be the chosen alternative, as its water system has a larger capacity and the water is softer than what would be obtained from the Village of Lakemore. Also, a few commenters recognized that U.S. EPA is limited by law as to its ability to fund an expanded system. These same commenters recognized that it then becomes a local responsibility to pay for an expanded system.

As previously stated, the purpose of the Superfund program is to restore or replace, and not improve upon, a resource that is lost due to contamination from an NPL site. U.S. EPA has determined that the area currently and potentially impacted by the IEL site consists of approximately 100 homes west of the site, and that, to be protective of public health, alternate water should be provided to that area. However, based on the comments which have asked that U.S. EPA consider sources of water other than the Village of Lakemore, specifically from the City of North Canton and from Summit County-Country Club Village Community Water Supply, U.S. EPA is deferring the decision on the source of the water until after initial design activities are completed. The design engineers will meet with State and local engineers and other personnel familiar with the operation of the water supply systems in order to develop detailed technical data not available during the RI/FS. This data can be used to decide which water supply to utilize. The evaluation of the water supply to be used shall be submitted as part of the preliminary design report when the overall design effort is approximately 30 percent complete.

Regarding the many comments on expansion, to design and construct a system larger than what has been determined to be protective, or to provide a better quality of water than what previously existed, is termed betterment. Betterment is allowed only if the State, or political subdivision thereof, pays for all costs related to it. If U.S. EPA receives a formal committment which defines the size of the area to be served, including provision of incremental funding for design and construction, from the State, local government or community, U.S. EPA will work with those entities to determine the funding of such a project and the appropriate source of water, given the change in the design criteria.

Under this scenario, U.S. EPA would transfer responsibility for the project to the State of Ohio, through a cooperative agreement between U.S. EPA and the State. An agreement between the State and the community would have to be entered into, in order to fund all incremental costs of the water system. If such a formal commitment is not received by U.S. EPA within 60 days after signing the Record of Decision (ROD) document, U.S. EPA will proceed to design and implement its recommended alternative of connecting the 100 homes to a new source of water. U.S. EPA will address any significant changes in compliance with Sections 117(b) Final Plan and 117(c) Explanation of Differences of SARA.

ATTACHMENT A

COMMUNITY RELATIONS ACTIVITIES CONDUCTED AT THE IEL SITE

Community relations activities conducted at the IEL site to date have included:

- U.S. EPA finalized a community relations plan on August 15, 1985 that outlined community relations activities to be conducted during the RI/FS;

- In March 1985, U.S. EPA established an information repository in the site community at the Lake Township Trustee's Office;

- In July 1985, U.S. EPA held a public meeting to present the work plan for the RI/FS at the site;

- In July 1986, U.S. EPA held a public meeting to describe the Phase I Remedial Investigation sampling results and present the proposed Phase II RI activities;

- From October 1985 to August 1987, U.S. EPA prepared 18 updates and/or fact sheets describing on-going RI activities at the site;

- On April 20 and 21, 1987, U.S. EPA held a public availability session to answer resident's questions about the IEL site. At this time, U.S. EPA also formed the IEL Information Committee;

- In April, May, and July 1987, U.S. EPA attended facilitated meetings of the IEL Information Committee;

- In August 1987, U.S. EPA held a public meeting in Uniontown to answer questions and accept oral and written comments on the Proposed Plan and the Focused Feasibility Study (FFS) evaluating alternate water supplies for the IEL site. Transcripts of this meeting are available at the U.S. EPA Region V office in Chicago, and at the Information Repository located in Hartville, Ohio. Additional comments on the FFS were accepted during the public comment period, which ran from August 12, 1987 through September 10, 1987.

ATTACHMENT "B" (see notes at end of tables)

COMPARISON OF TENTATIVELY IDENTIFIED COMPOUNDS FOUND IN RESIDENTIAL WELLS
AND THOSE FOUND IN MONITORING WELLS

RESIDENTIAL WELLS

TENTATIVELY IDENTIFIED COMPOUNDS (CASE #6296)	SAMPLES	RANGE (PPB)
1,1,2-TRICHLOROETHANE	FLD BLK	99
1,1'-OXYBISETHANE	RW05,RW08,RW09,RW11(2)	11-22
1,3,6-TRIOXOCANE	RW05,RW06	11-17
1-ETHOXYBUTANE	RW11	6
4,4'-THIOBIS(2-(1,1-DIMETHYLETHYL)-5...PHENOL	RW10	3
4-ACETYLMORPHOLINE	RW08	5
4-(1,1-DIMETHLETHYL) BENZOIC ACID	RW11	4
DICHLOROFLUOROMETHANE	RW05	8
DIETHYL ESTER PHOSPHORIC ACID	RW11(2)	3
HEXADECANOIC ACID	RW09,RW11	4-7
MONO (2-ETHYLHEXYL) ESTER HEXANEDIOIC ACID	RW02,RW03,RW12,RW13,RW16,RW17,RW20,FB,FB,MB	3-6
SILOXANE	RW14	2
SULFUR	RW01,RW07,RW11(2)	4-7
TETRAHYDROFURAN	RW05	9
TETRAMETHYLUREA	RW08,RW11(2)	3
THIAZOLE	RW09	2
TRICHLOROFLUOROMETHANE	FLD BLK(2)	11

ATTACHMENT "B" continued

RESIDENTIAL WELLS, cont.

CASE #6577	SAMPLES	RANGE (PPB)
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	RW40	3
1,2-DIETHOXY-ETHANE	RW38,FB	1-5
1,3,6-TRIOXACANE	RW38	2
2-METHYL-BUTANOIC ACID	RW31	1
2-METHYL-CYCLOPENTANOL	RW39,RW41,RW42,RW43,RW44,RW46,FB(2),MB	2-7
2-METHYL-...PROPANOIC ACID	RW34	1
3,3,3-TRICHLORO-1 PROPENE	RW21,RW22,RW23,RW24,RW26,RW27,RW28,RW29, RW33,RW34,RW35	1-5
3-METHYL-2-BUTANONE	RW31	2
DICHLOROFLUOROMETHANE	RW39	3
DODECANAMIDE	RW24,RW25,RW26,RW28,MB	2-5
NONANOIC ACID	RW34	1
PENTANE	RW26,RW27,RW29,RW30,RW31,RW33,MB	2-6
SULFUR	RW40	5
TETRAHYDROFURAN	RW38	3
TRICHLOROMETHANE	RW30	3

ATTACHMENT "B" cont.

RESIDENTIAL WELLS, cont.

CASE #6636	SAMPLES	RANGE (PPB)
1,1'-OXYBISETHANE (ETHYL ETHER)	RW05,RW07	4-10
1,2-DIETHOXY-ETHANE	RW05,RW08,RW09,RW11	8-31
1,3,6-TRIOXACANE	RW05(2),RW08,MB	5-19
1,4-DIMETHOXY-2,3,5,6...BENZENE	RW11	5
1-ETHOXYBUTANE	RW08,RW09	5-12
1-METHYL-1H-IMIDAZOLE	RW11	8
2-METHOXY-...BENZENEPROPANOL	RW08	4
2-METHYL-2-PROPANOL	RW11	7
4-ACETYL-MORPHOLINE	RW08,RW09	3-6
4-BUTOXY-BUTANOIC ACID	RW08,RW09	4-7
4-ETHYL-MORPHOLINE	RW08	2
4-(1,1-DIMETHYL...) BENZOIC ACID	RW09,RW11	3-5
6-METHOXY-...4,2-CRESOTIC ACID	RW09	6
AZACYCLOTRIDECAN-2-ONE	RW09,RW11	2-3
BIS(PENTAFLUOROPHEN...)BENZENAMINE	RW10,RW11,RW15,FB	3
BIS(PENTAFLUOROPHEN...)PHOSPHINE	RW01,RW05(2),RW06,RW07,RW09,RW11, RW13(2),RW14,RW15,RW19,RW51,FB,MB	2-16
N,N-DI...BENZENECARBOXIMIDAMIDE	RW05	4
O-METHYLOXIME-3-PENTANONE	RW09	5
SULFUR	RW01,RW05,RW07,RW09	2-40
TETRAETHYL-DIPHOSPHORIC ACID	RW08,RW09	4-5
TETRAHYDROFURAN	RW05(2),RW07,RW08,RW09,RW11	4-10

ATTACHMENT "B",cont.

MONITORING WELLS

TENTATIVELY IDENTIFIED COMPOUNDS (CASE #5909)	SAMPLES	RANGE (PPB)
1,1'-OXYBISETHANE	MW01S,MW03S	19-42
1,7,7-TRIMETHYL-BICYCLO[2.2.1]HEPTAN-2-ONE	MW03S	24
1-HEXYL-AZIRIDINE	MW01S	38
1-(2-METHOXY-1-METHYLETHOXY)-2-PROPANOL	MW03S	39
1-[1-METHYL-2-(2-PROPENYLOXY)ETHOXY]-2-PROPANOL	MW03S	22
1-[2-(2-METHOXY-1-METHYLETHOXY)-1-METHYL-2-PROPANOL	MW03S	100
2-CYCLOHEPTEN-1-ONE	MW02D,MW03D	12-70
2-METHYL-CYCLOPENTANONE	MW01S,MB	38
2-METHYL-TRANS-CYCLOPENTANOL	MW01S,MB	20
2-PROPENYL-CYCLOPENTANE	MW03S	48
4-ETHYL-4H-1,2,4-TRIAZOL-3-AMINE	MW02D	24
4-METHYL-2-PENTANOL	MW03S	27
9-EICOSYNE	MW01S	32
CYCLOHEPTANOL	MW03S	130
CYCLOHEPTANONE	MW03S	110
CYCLOHEXANE	MW03S	26
DIETHYL ESTER PHOSPHORIC ACID	MW03S	36
FURAN	MW01S	15
HEXADECANOIC ACID	MW03S	14
NONANAMIDE	MW03D,MB	14
N'-CYCLOOCTYL-N,N-DIMETHYL-UREA	MW03S	33
N-PHENYL-1H-IMIDAZOLE-4-CARBOXAMIDE	MW03S	68
TETRAHYDROFURAN	MW03S	14
TETRAMETHYL UREA	MW03S	28
TETRAMETHYL-THIOUREA	MW03S	15
.BETA.,BETA.-DIMETHYL-BENZENEPROPANOIC ACID	MW03S	14

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ATT[illegible]ENT "B", cont.

MONITORING WELLS, cont.

TENTATIVELY IDENTIFIED COMPOUNDS (CASE #7009)	SAMPLES	RANGE (PPB)
1,1'-OXYBISETHANE	MW07S,MW01S	10-18
1,3,5-TRIMETHYL-BENZENE	MW07S	46
1,3-OXATHIOLANE	MW07S	48
1,7,7-TRIMETHYL-BICYCLO[2.2.1]HEPTAN-2-ONE	MW07S	64
1-ETHYL-3-METHYL-BENZENE	MW07S	14
1-METHYL-2-PYRROLIDINONE	MW03D,MW03M,MW07D	10-84
2,4,4-TRIMETHYL-1-PENTENE	MW03M	19
2,4--DIMETHYL-1-DECENE	MW03M	6
2(3H)-BENZOTHIAZOLONE	MW03D,MW07S	10-710
2-BUTANOL	MW07S	7
2-ETHYL-1,3-DIOXOLONE-4-METHANOL	MW07S	160
2-METHYL-BENZOYL CHLORIDE	MW07S	9
2-METHYL-CYCLOHEXANOL	MW07S	54
2-PROPOXY-ETHANOL	MW03D,MW07M,MW07D,MW08M	9-12
4,5-DIHYDRO-1,4-DIMETHYL-1H-TETRAZABOROLE	MW07S	15
4-HYDROXY-4-METHYL-2-PENTANONE	MW07D,MW08D,MW08M	9-13
4-METHYL-1-(METHYLETHYL)-CYCLOHEXANOL	MW07S	8
4-(1,1-DIMETHYLETHYL)-PHENOL	MW07S	12
4-(ACETYLAMINO)-BENZOIC ACID	MW07S	58
N,N'-DIETHYL-THIOUREA	MW07S	13
N,N-DIMETHYL-FORMAMIDE	MW05S	10
TETRAHYDROFURAN	MW07S	13
THIO-S-DECYLESTER-BUTYRIC ACID	MW03D,MW03M,MW07M,MW07D,MW01S MW05S,MW11M,MW04S,MW09M,MW09D	9-33

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ATTACHMENT "B", cont.

MONITORING WELLS, cont.

TENTATIVELY IDENTIFIED COMPOUNDS (CASE #7037)	SAMPLES	RANGE (PPB)
1,2-DIETHOXYETHANE	MW03S	16
1-(1,1-DIMETHYLETHYL)-2-METHYL-1,3-PROPANE-2-METHYL-PROPANOIC ACID	MW12D,MW11D,MW02D(2),MW10M,MW01D, MW10S,MW12M(2),MW11S	12-47
2(3H)-BENZOTHIAZOLONE	MW03S	51
4-ACETYL-MORPHOLINE	MW03S	9
HEXANOIC ACID ANHYDRIDE	FB	34
PROPYL-CYCLOPENTANE	MW03S	12
TETRAHYDROFURAN	MW03S	18
TETRAMETHYL-UREA	MW03S	24

ATT[illegible]ENT "B", cont.

TENATATIVELY IDENTIFIED COMPOUNDS THAT EXACTLY MATCH
BETWEEN RESIDENTIAL AND MONITORING WELLS - I&L

TENTATIVELY IDENTIFIED COMPOUNDS	SAMPLES	RANGE (PPB)
1,1'-OXYBISETHANE	MW07S,MW01S	10-18
1,1'-OXYBISETHANE	RW05,RW08,RW09,RW11(2)	11-22
1,1'-OXYBISETHANE	MW01S,MW03S	19-42
1,1'-OXYBISETHANE	RW05,RW07	4-10
1,2-DIETHOXY-ETHANE	MW03S	16
1,2-DIETHOXY-ETHANE	RW38,FB	1-5
1,2-DIETHOXY-ETHANE	RW05,RW08,RW09,RW11	8-31
4-ACETYL-MORPHOLINE	RW08	5
4-ACETYL-MORPHOLINE	MW03S	9
4-ACETYL-MORPHOLINE	RW08,RW09	3-6
DIETHYL ESTER PHOSPHORIC ACID	RW11(2)	3
DIETHYL ESTER PHOSPHORIC ACID	MW03S	36
HEXADECANOIC ACID	RW09,RW11	4-7
HEXADECANOIC ACID	MW03S	14
TETRAHYDROFURAN	MW07S	13
TETRAHYDROFURAN	MW03S	18
TETRAHYDROFURAN	RW05(2),RW07,RW08,RW09,RW11	4-10
TETRAHYDROFURAN	RW05	9
TETRAHYDROFURAN	RW38	3
TETRAHYDROFURAN	MW03S	14
TETRAMETHYL UREA	MW03S	28
TETRAMETHYL UREA	RW08,RW11(2)	3
TETRAMETHYL UREA	MW03S	24

Notes: "RW" and "MW" sample numbers refer to residential and monitoring wells, respectively
"FB" refers to Fields Blanks collected during sampling and "MB" refers to Method Blanks run at the laboratory during analysis.
All samples analyzed by EPA CLP laboratories.

ATTACHMENT C

COUNTRY CLUB VILLAGE COMMUNITY WATER SUPPLY

The Country Club Village Community Water Supply is located approximately two miles west-southwest of Uniontown and obtains its water from two wells completed in the Sharon Conglomerate of the Pottsville Group. The system includes a 400,000 gallon elevated storage facility. The well water has a hardness of about 200 to 250 mg/l as $CaCO_3$ and, like most well water in the area, contains relatively large amounts of iron and manganese. The water system, which is owned and operated by Summit County, is currently operating at 30-45 percent of its design capacity of 0.75 mgd. Summit County has tentative plans to drill another well to augment the existing system. Existing wells are equipped with chlorination units. A 12-inch water main is available just south of the intersection of Raber Road and Gleneagles Boulevard.

The provision of water to Uniontown would require the construction of both a trunk line from Country Club Village and a distribution system to supply water to the users. Due to uncertainties regarding system hydraulics, a booster pump station having at least two pumps has also been included in the cost estimates. The pumps would be capable of pumping 500 gpm at 50 to 60 psi; and would be regulated automatically using pressure switches installed downstream of the booster pump station. The pump station would be located near the intersection of Raber Road and Gleneagles Boulevard. Water supplied to Uniontown would be metered at this station. Most of the required equipment (booster pumps, valves, flow meter, and controls) would be housed in a brick and block building measuring approximately 12 feet by 12 feet in dimension.

The water obtained from Country Club Village Community Water Supply is hard and the use of this water in Uniontown would warrant continued use of existing home softeners. No additional treatment or water quality monitoring would be required. Summit County would operate and maintain the booster pump station and that part of the 12-inch diameter trunkline located within Summit County. The remaining portion of the 12-inch trunkline and the distribution system itself, consisting of 3,200 feet of 6-inch diameter mains, 6,700 feet of 8-inch diameter mains, and 100 service lines, would be operated and maintained by the users or their designee such as Lake Township, Stark County, or Summit County.

ALTERNATIVE NO. 4
PURCHASE WATER FROM COUNTRY CLUB VILLAGE WATER SUPPLY, SUMMIT COUNTY
CAPITAL COSTS

INDUSTRIAL EXCESS LANDFILL — REM II
FOCUSED FEASIBILITY STUDY — 09/22/87

ITEM	UNITS	QUANTITY	UNIT COST	TOTAL COST
1. Mobilization	LS	1	$50,000	$50,000
2. Booster Pump Station	LS	1	$80,000	$80,000
3. Furnish & Install 6-inch Watermain	FT	3,200	$25	$80,000
4. Furnish & Install 8-inch Watermain	FT	6,700	$30	$201,000
5. Furnish & Install 12-inch Trunk Line	FT	11,000	$40	$440,000
6. House Service	EA	100	$1,200	$120,000
7. Abandon Existing Wells	EA	100	$500	$50,000
SUBTOTAL				$1,021,000
CONTINGENCIES @	10%			$102,100
SUBTOTAL				$1,123,100
ENGINEERING DESIGN @	10%			$112,310
CONSTRUCTION & STARTUP ASSISTANCE @	10%			$112,310
TOTAL				$1,347,720

ALTERNATIVE NO. 4
PURCHASE WATER FROM COUNTRY CLUB VILLAGE WATER SUPPLY, SUMMIT COUNTY
OPERATION & MAINTENANCE COSTS

INDUSTRIAL EXCESS LANDFILL — REM II
FOCUSED FEASIBILITY STUDY — 09/22/87

ITEMS	COST
1. Water Purchase Costs - 15 ag/year @ $1,700/ag	$25,500
1. Labor - 4 hours/week @ $20/hour	$4,160
3. Distibution System Repairs and Maintenance	$2,000
4. Administrative and Miscellaneous Expenses	$2,500
ANNUAL O&M	$34,160
5. Annual Equipment Replacement Costs (AERC)	
a. 5 percent discount rate : $46,000 x 0.065	$2,990
b. 10 percent discount rate : $46,000 x 0.106	$4,880
6. Annual O&M Plus AERC (Includes Pump Station Operating Costs)	
a. 5 percent discount rate	$37,150
b. 10 percent discount rate	$39,040
7. Present Worth of Capital Costs	$1,347,720
8. Total Present Worth of O & M Costs	
a. 5 percent discount rate	$571,000
b. 10 percent discount rate	$368,150
8. Total Present Worth of Capital and O & M Costs	
a. 5 percent discount rate	$1,918,720
b. 10 percent discount rate	$1,715,870

Annualized equipment replacement costs (AERC) were estimated by multiplying replacement costs by the Capital Recovery Factor (CRF).

$$CRF = i(1 + i)^n / (1 + i)^n - 1$$

Where : n = Period in years = 30 years
i = Discount rate : i = 5 percent ; CRF = 0.065
: i = 10 percent ; CRF = 0.106

Equipment replacement costs throughtout the project life are estimated as follows :

a. Pumps and motors - Replace every 10 years @ $10,000/replacement	$30,000
b. Miscellaneous replacements	$10,000
TOTAL	$40,000

Present worth of annual costs are estimated by multiplying the annual costs by the Present Worth Factor (PWF).

$$PWF = (1 + i)^n - 1 / i(1 + i)^n$$

Where : n = Period in years = 30 years
i = Discount rate : i = 5 percent ; PWF = 15.37
: i = 10 percent ; PWF = 9.43